APR 21 1961

Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

Volume 18 Number 4

April, 1961

Dept. of Library & Arch.
State Capitol Bldg.
Phoenix, Ariz.

now
Pulvules®
Ilosone

. . . in a more acid-stable form . . . for greater therapeutic activity

- *more antibiotic available for absorption*
- *new prescribing convenience*
- *same unsurpassed safety*

Pulvules · Suspension · Drops

Ilosone® (propionyl erythromycin ester lauryl sulfate, Lilly)

ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA, U.S.A.

032639

70TH ANNUAL MEETING SCOTTSDALE, ARIZONA
APRIL 26, 27, 28, 29, 1961

because
vitamin deficiencies
tend to be multiple...
give your postoperative
patient the protection of
MYADEC

high-potency vitamin formula with minerals

It is generally agreed that after surgery, or at other times of physiologic stress, vitamin reserves may be depleted. MYADEC helps to correct such deficiencies. Just one capsule daily supplies therapeutic potencies of 9 vitamins, *plus* various minerals normally found in body tissues. MYADEC is also valuable for the *prevention* of vitamin deficiencies in those patients whose customary diets are lacking in important food factors.

Each MYADEC capsule contains:

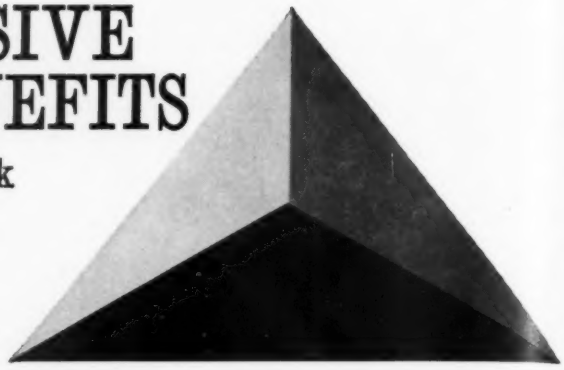
Vitamins: Vitamin B_{12} crystalline—5 mcg.; Vitamin B_2 (G) (riboflavin)—10 mg.; Vitamin B_6 (pyridoxine hydrochloride)—2 mg.; Vitamin B_1 mononitrate—10 mg.; Nicotinamide (niacinamide)—100 mg.; Vitamin C (ascorbic acid)—150 mg.; Vitamin A—(7.5 mg.) 25,000 units; Vitamin D—(25 mcg.) 1,000 units; Vitamin E (*d*-alpha-tocopheryl acetate concentrate)—5 I.U. ***Minerals*** (as inorganic salts): Iodine—0.15 mg.; Manganese—1 mg.; Cobalt—0.1 mg.; Potassium—5 mg.; Molybdenum—0.2 mg.; Iron—15 mg.; Copper—1 mg.; Zinc—1.5 mg.; Magnesium—6 mg.; Calcium—105 mg.; Phosphorus—80 mg. Bottles of 30, 100, and 250. 55261

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

COMPREHENSIVE OLD AGE BENEFITS

▲ brightens the outlook
▲ lightens the load of poor nutrition
▲ heightens tissue/bone metabolism



NEW

1 small capsule every morning

GEVRESTIN®

Geriatric Vitamins-Minerals-Hormones-d-Amphetamine Lederle

Each capsule contains: Ethinyl Estradiol 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (Oral) • Thiamine Mononitrate (B_1) 5 mg. • Riboflavin (B_2) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B_6) 0.5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate 50 mg. • l-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as $CaHPO_4$) 35 mg. • Phosphorus (as $CaHPO_4$) 27 mg. • Fluorine (as CaF_2) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K_2SO_4) 5 mg. • Manganese (as MnO_2) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as $Na_2B_4O_7.10H_2O$) 0.1 mg. Bottles of 100, 1000.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

in very special cases
a very superior brandy...
specify

★ ★ ★

HENNESSY

COGNAC BRANDY

84 Proof | Schieffelin & Co., New York

ALCOHOLISM

A hospital equipped and staffed for the accommodation of those patients in whom over indulgence in alcoholic beverages has created a problem.

OPEN STAFF to members of the Arizona Medical Association.

POLLEN FREE REFRIGERATED AIR CONDITIONING FOR YEAR ROUND COMFORT

The Franklin Hospital

Hospital License No. 71
Registered A.M.A.
Member A.H.A.

367 No. 21st Avenue
PHOENIX, ARIZONA

Phone - Day or Night - AL 3-4751

New from Saunders

Nagan—Medical Almanac, 1961-62

Hundreds of facts and figures on the entire framework and operation of the medical world

Just Ready! Now under one cover you'll find a tremendous range of up-to-date data never before gathered into a single source. You can quickly check on such diverse information as: *Nobel prize winners in medicine—frequency rate of various injuries in industry—admission requirements of medical schools—number of M.D.s in major countries.* Hundreds of lists, charts, graphs and directories set forth information in quickly assimilable form. Where recentness of data is vital, you'll find statistics carried right up to 1960. Where a long record of experience is valuable, you'll find accurate figures in some cases going back to the late Seventeen Hundreds. Forthcoming meetings, tax deadlines, etc. are listed into the future. Anyone in medicine who writes, who lectures, who must document articles, or who holds some organizational duties can use this almanac daily.

Compiled by PETER S. NAGAN, A.B., M.A., M.S., 528 pages, 5½"x7¾", Paper Bound. About $5.50. *New—Just Ready!*

Over 500 pages of exhaustive facts and figures on a myriad of topics:

What medical records to keep and for how long—leading medical publications—summary of medical systems in major countries—average prevalence of peptic ulcer by sex and age—12 diagnoses with highest annual rate per 1000 patients—prevalence of chronic conditions among persons 45 years and older by age, sex—number of physicians specializing in industrial medicine—deaths and death rate from accidents by type—birth rate by color and by age of mother, 1800-1959.

Advertising medical products on TV—great epidemics of the past—leading foreign medical journals—schedule of 1961 conventions—officials and executive staff of the AMA—average income of doctors in U.S.—tuberculosis and death rate—narcotics regulations—license renewal by state—federal legislation affecting doctors.

Pillsbury, Shelley & Kligman—Manual of Cutaneous Medicine

A New Book!

Just Ready! This concise, practical manual contains a wealth of immediately applicable information on managing the entire range of cutaneous disease. It clearly illuminates the anatomy, physiology, pathology and pathophysiology of the skin. You'll find diagnosis, prevention and treatment of those skin diseases you meet most frequently in daily practice—from acne to tumors of the skin. The authors emphasize changes in the skin which may be representative of systemic disease. They assess the advantages of various treatment methods, and clearly point out potential hazards.

By DONALD M. PILLSBURY, M.A., D.Sc. (Hon.), M.D., F.A.C.P., Professor and Director of Department of Dermatology; WALTER B. SHELLEY, M.D., Ph.D., F.A.C.P., Professor of Dermatology; and ALBERT M. KLIGMAN, M.D., Ph.D., Professor of Dermatology. All of the University of Pennsylvania School of Medicine. About 440 pages, 6"x9¼", with 234 illustrations. About $10.00. *New—Just Ready!*

Rushmer—Cardiovascular Dynamics

New (2nd) Edition!

This valuable book provides you with the information you need to make keener diagnoses and evaluations of heart disorders. Dr. Rushmer presents a clear picture of the structure, function and control of the various components of the cardiovascular system as they exist under normal conditions—followed by the changes which occur in presence of disease. You'll find recent advances, particularly in the areas of *instrumentation and analysis of cardiac dynamics,* clearly shown. Among the topics covered are: Cardiac Output; Measurements of Pressure; Cardiovascular Sounds; Heart Size and Configuration.

By ROBERT F. RUSHMER, M.D., Professor of Physiology and Biophysics, University of Washington Medical School. 503 pages, 6½"x10", with 264 illustrations. $12.50. *Just Published—New (2nd) Edition!*

Order Now

SJG-4-61

W. B. SAUNDERS COMPANY
West Washington Square, Philadelphia 5

Saunders books

Please send me the following books and charge my account:

- ☐ Nagan's Medical Almanac, 1961-62, about $5.50
- ☐ Pillsbury et al., Manual of Cutaneous Medicine, about $10.00
- ☐ Rushmer's Cardiovascular Dynamics, $12.50

Name_____

Address_____

Arizona Medicine

JOURNAL OF ARIZONA MEDICAL ASSOCIATION

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

April, 1961 Vol. 18, No. 4

Table of Contents

ARIZONA MEDICAL ASSOCIATION REPORTS

ARMA DISABILITY INSURANCE – GROUP PLAN 16A

ORIGINAL ARTICLES

THE POLYOMA STORY 93
A. W. Ham, A. A. Axelrad, A. F. Howatson, E. A. McCulloch, L. Siminovitch

DIABETES AMONG THE PIMA INDIANS OF ARIZONA 99
John H. Parks, M.D., Eleanor Washow, M.D.

THE NEWER PROGESTATIONAL AGENTS IN CLINICAL PRACTICE 107
Robert B. Greenblatt, M.D., S. N. Dutta, M.B.B.S.

THE HUMORAL AGENT OF THE PREGNANCY TOXEMIAS 114
William E. Crisp, M.D., John G. Boutselis, M.D.

FLORENCE NIGHTINGALE, A GREAT WOMAN 118
Josephine Barger, R.N., M.D., M.S.

SQUAW PEAK NOTES – SKUNK BOATS 121
Dry Gulch Jake (John W. Kennedy, M.D.)

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO

PRESIDENTIAL ADDRESS – W. R. Manning, M.D. 33A

DISCURSO PRESIDENCIAL – Dr. W. R. Manning 36A

THE PRESIDENT'S PAGE

THE PHYSICIAN AND THE TWO CULTURES – Lindsay E. Beaton, M.D. 42A

EDITORIALS

THE USE AND ABUSE OF COSMETICS – Kenneth C. Baker, M.D. 49A

TRAUMA AND ITS AFTERMATH – William B. McGrath, M.D. 50A

FOUNDATION FOR MEDICAL CARE – Darwin W. Neubauer, M.D. 51A

LETTER TO THE EDITOR – H. C. Warnock 52A

IN MEMORIAM

MARK HENRY WALL, M.D. 60A

ARMOND J. RUPPENTHAL, M.D. 61A

TOPICS OF CURRENT MEDICAL INTEREST

THE PHYSICIAN'S ACCOUNTANT – Gary Wade 67A

U. OF A. – MEDALLIONS OF MERIT 69A

PRELIMINARY REPORT – AIR POLLUTION SURVEILLANCE STUDY, TUCSON, ARIZONA – Hugh H. Smith, M.D., M.P.H. 69A

ARTHUR C. STEVENSON, M.D., ELECTED TO BOARD OF DIRECTORS, NATIONAL ASSOCIATION OF BLUE SHIELD 70A

ARIZONA POISONING CONTROL INFORMATION CENTER – SALICYLATE POISONING: TREATMENT BY CURARIZATION AND CONTROLLED RESPIRATION 70A

FUTURE MEDICAL MEETINGS AND POSTGRADUATE EDUCATION

ARMA – 70th ANNUAL MEETING – 1961 SCIENTIFIC PROGRAM 78A

DIRECTORY

OFFICERS AND COMMITTEES 12A

SOCIEDAD MEDICA DE ESTADOS UNIDOS DE NOTRE AMERICA Y MEXICO 14A

MEDICAL SOCIETY OF THE UNITED STATES AND MEXICO 14A

WOMAN'S AUXILIARY 14A

INDEX TO ADVERTISERS 86

Published monthly by the Arizona Medical Association, Inc. Business office at 1021 Central Towers Building, Phoenix, Arizona. Subscription $5 a year, single copy 50 cents. Entered as second class matter March 1, 1921, at Postoffice at Phoenix, Arizona, Act of March 3, 1879.

Re: *New* Nonsteroid Chemotherapy of RHEUMATOID ARTHRITIS

Dear Doctor:

The "ideal" drug for rheumatoid arthritis would be "...one that is effective in the majority of those afflicted, and of such low toxicity that it can be given, in an effective dosage, for as many years as may be necessary to control the disease process in any given patient."[1]

The two drugs that currently come closest to the definition of "ideal" are aspirin and Plaquenil®. The outstanding safety of aspirin and its effectiveness in the treatment of persons with rheumatoid arthritis have been firmly established for decades. Recent clinical studies, extending over periods of from one to five years, have demonstrated that Plaquenil inhibits rheumatoid disease in the majority of patients[1] and that it is "...the least toxic of its class..."[1,2]

PLANOLAR* is a combination of Plaquenil and aspirin; each tablet contains 60 mg. of Plaquenil sulfate and 300 mg. (5 grains) of aspirin. An average initial dosage of 2 PLANOLAR tablets two or three times daily produces prompt relief of pain and discomfort in the majority of patients while initiating effective long-term therapy of the rheumatoid arthritic process.

Our PLANOLAR brochure contains a complete report of clinical experience and side effects as well as more detailed information on dosage. May we send you a copy?

Sincerely yours,
WINTHROP LABORATORIES

1. Bagnall, A. W.: Antimalarial compounds in rheumatoid disease, *Canad. M.A.J.* 82:1167, June 4, 1960.

2. Cornbleet, Theodore: Discoid lupus erythematosus treated with Plaquenil, *A.M.A. Arch. Dermat.* 73:572, June, 1956.

*Planolar, trademark

Plaquenil (brand of hydroxychloroquine), trademark reg. U.S. Pat. Off.

The cigarette that made the Filter Famous!

It's true. Kent's enormous rise in popularity—with all the attendant magazine and newspaper stories—really put momentum to the trend toward filter cigarettes!

So, Kent is the cigarette that made the filter famous. And, no wonder. Kent's famous Micronite filter is made from a pure, all-vegetable material. A specially designed process at the P. Lorillard factory compresses this material into the filter shape and creates an intricate network of tiny channels which refine smoking flavor.

Kent with the Micronite filter refines away harsh flavor . . . refines away hot taste . . . makes the taste of a cigarette mild.

That's why you'll feel better about smoking with the taste of Kent.

© 1961 P. LORILLARD CO.

A PRODUCT OF P. LORILLARD COMPANY · FIRST WITH THE FINEST CIGARETTES · THROUGH LORILLARD RESEARCH

SUCCESSFUL FAMILY PLANNING...BASED ON YOUR COUNSEL AND LANESTA® GEL

Every young couple about to be married needs advice of all sorts, and they'll get it, too – from everybody – some good, some bad. But some of the most valuable counsel they can get – help in planning their own family – comes best from you. Their family happiness for many years can depend on what you suggest to them, including your recommendation for the use of Lanesta Gel.

Lanesta Gel, with or without a diaphragm, is a most effective means of conception control. Lanesta Gel offers faster spermicidal action because it rapidly diffuses into the seminal clot. In fact, Gamble ("Spermicidal Times of Commercial Contraceptive Materials – 1959"*) *found the mean diffusion spermicidal time of Lanesta Gel to be three to seven times faster than the mean diffusion times of ten leading commercially available contraceptive creams, gels, or jellies.*

Lanesta Gel has complete esthetic acceptance and is well tolerated. *Gamble, C. P.: Am. Pract. & Digest. Treat. *11*:852 (Oct.) 1960.

A PRODUCT OF LANTEEN® RESEARCH BREON Distributed by
Supplied by Esta Medical Laboratories, Inc., Alliance, Ohio BREON LABORATORIES INC., New York 18, N. Y.

DORNWAL® IS THE TRANQUILIZER VERSATILE ENOUGH TO BE USED ALMOST ANYWHERE.

Take, for instance, the woman in our picture, suffering from a really severe tension headache. Aspirin she has tried, of course; but suppose she's called you and you prescribed Dornwal. What would you expect?

First, let us say you told the druggist to indicate the dosage that our clinical research has shown is useful in these cases — 1 or 2 tablets t.i.d. In all probability, she would experience relief of pain and a general relaxation in less than an hour. If she is doing her housework, she could go on with it, because she wouldn't get sleepy.

Dornwal is one tranquilizer that doesn't make people sleepy. It's a tranquilizer pure and simple. Its effectiveness you will see clearly the next time you encounter a patient given to tension headaches. Try Dornwal and see the results.

Dosage: One or two 200 mg. tablets three times a day. Children, age 6 to 16, one or two 100 mg. tablets two times a day. Administration limited to three months' duration.

Supplied: 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

Maltbie Laboratories Division,
Wallace & Tiernan Inc., Belleville 9, N. J.

Maltbie

PDW-11

WAYLAND

PRESCRIPTION PHARMACIES

TWO CONVENIENT LOCATIONS

NORTH CENTRAL MEDICAL BLDG.

2021 N. Central

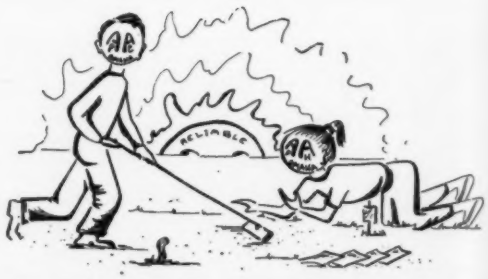
And

PROFESSIONAL BUILDING

13 E. Monroe

Phoenix, Arizona

FREE DELIVERY



Protection Against Loss Of Income From Accident & Sickness As Well As Hospital Expense Benefits For You And All Your Eligible Dependents.

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL BENEFITS GO TO

PHYSICIANS CASUALTY & HEALTH ASSOCIATIONS

OMAHA 31, NEBRASKA

Since 1902

Handsome Professional Appointment Book sent to you FREE upon request.

W

go
by
de

TAE
Natur
A.

When the evidence indicates smooth muscle spasm,

good judgment can render it "null and void"
by a ruling in favor of
dependable autonomic sedation

DONNATAL®

TABLETS • CAPSULES • ELIXIR • EXTENTABS

Robins

Natural belladonna alkaloids in optimal synergistic ratio, plus phenobarbital

A. H. ROBINS CO., INC., Richmond 20, Virginia

	In each Tablet, Capsule or tsp. (5 cc.) of Elixir	In each Extentab
Hyoscyamine sulfate	0.1037 mg.	0.3111 mg.
Atropine sulfate	0.0194 mg.	0.0582 mg.
Hyoscine hydrobromide	0.0065 mg.	0.0195 mg.
Phenobarbital	(¼ gr.) 16.2 mg.	(¾ gr.) 48.6 mg.

promp
pronounced
prolon
relie

painful skeletal muscle spasm

ROBAXIN®

Robins

INJECTABLE AND TABLETS Methocarbamol Robins U.S. Pat. No. 2770649

Relaxation – obtained *within minutes* with ROBAXIN Injectable.
– maintained *without drowsiness* with ROBAXIN Tablets.

Nine published studies show:

Beneficial results in 90% of cases of skeletal muscle spasm with ROBAXIN.

Clinical responses to ROBAXIN therapy, as reported by investigators:

"*marked*" in 26 out of 33 patients, moderate in 6...[1] "*pronounced*" in 37 out of 58 patients, moderate in 20...[2] "*good*" in 25 out of 38 patients, moderate in 6...[5] "*excellent*" in 14 out of 17 patients, moderate in 2...[6] "*significant*" in 27 out of 30 patients...[7] "*gratifying*" in 55 out of 60 patients...[8] "*effective*" in 32 out of 32 patients...[9] "*marked*" in 27 out of 46 patients, moderate in 6...[4] "*good*" in 57 out of 60 patients, moderate in 3.[10]

ROBAXIN exhibits "great freedom from undesired side reactions,"[3] does not produce "concomitant euphoria or partial anesthesia,"[10] and permits patients to retain concentration and awareness.[8]

For immediate relaxation of acute skeletal muscle spasm:

Robaxin® Injectable – each ampul containing 1.0 Gm. of methocarbamol in 10 cc. of sterile solution.

For initiating therapy or maintaining relaxation induced by ROBAXIN Injectable:

Robaxin® Tablets – 0.5 Gm. (white, scored) in bottles of 50 and 500.

Also available: *When pain and spasm require concurrent analgesic and relaxant action:*

Robaxisal® Tablets – Robaxin with Aspirin

–and for skeletal muscle relaxation with more comprehensive analgesia:

Robaxisal®– PH – Robaxin with Phenaphen®

Literature available to physicians on request.

REFERENCES: 1. Carpenter, E. B.: Southern M.J. 51:627, 1958. 2. Forsyth, H. F., J.A.M.A. 167:163, 1958. 3. Hudgins, A. P.: Clin. Med. 6:2321, 1959. 4. Grisolia, A., and Thomson, J. E. M.: Clin. Orthopaedics 13:299, 1959. 5. Lewis, W. B.: California Med. 90:26, 1959. 6. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 7. Park, H. W.: J.A.M.A. 167:168, 1958. 8. Plumb, C. S.: Journal-Lancet 78:531, 1958. 9. Poppen, J. L., and Flanagan, M. E.: J.A.M.A. 171:296, 1959. 10. Schaubel, H. J.: Orthopedics 1:274, 1959.

A. H. ROBINS CO., INC., Richmond 20, Virginia

Making today's medicines with integrity... seeking tomorrow's with persistence

Directory

THE ARIZONA MEDICAL ASSOCIATION, INC.

Organized 1892 1021 Central Towers Building
2727 NORTH CENTRAL AVE., PHOENIX, ARIZONA

OFFICERS AND DIRECTORS

Lindsay E. Beaton, M.D. ..... President
1650 N. Campbell Avenue, Tucson, Arizona
Leslie B. Smith, M.D. ..... President-elect
1130 East McDowell Rd., Phoenix, Arizona
Clarence E. Yount, Jr., M.D. ..... Vice President
105 North Cortez, Prescott, Arizona
Lorel A. Stapley, M.D. ..... Secretary
550 West Thomas Rd., Phoenix, Arizona
Arthur V. Dudley, Jr., M.D. ..... Treasurer
1524 North Norton Avenue, Tucson, Arizona
Paul B. Jarrett, M.D. ..... Speaker of the House
2021 North Central Avenue, Phoenix, Arizona
Jesse D. Hamer, M.D. ..... Delegate to AMA
910 Professional Building, Phoenix, Arizona
Robert E. Hastings, M.D. ..... Alternate Delegate to AMA
1014 North Country Club Rd., Tucson, Arizona
Darwin W. Neubauer, M.D. ..... Editor-in-Chief
720 North Country Club Rd., Tucson, Arizona

DISTRICT DIRECTORS

Donald A. Polson, M.D. ..... Central District
550 West Thomas Rd., Phoenix, Arizona
Wallace A. Reed, M.D. ..... Central District
2021 North Central Avenue, Phoenix, Arizona
E. Henry Running, M.D. ..... Central District
150 W. McDowell Rd., Phoenix, Arizona
Paul L. Singer, M.D. ..... Central District
1313 North Second Street, Phoenix, Arizona
Leo L. Tuveson, M.D. ..... Central District
550 West Thomas Rd., Phoenix, Arizona
Arnold H. Dysterheft, M.D. ..... Northeastern District
McNary Hospital, McNary, Arizona
Roy O. Young, M.D. ..... Northwestern District
110 West Birch Ave., Flagstaff, Arizona
Deward G. Moody, M.D. ..... Southeastern District
101 Terrace Street, Nogales, Arizona
Walter T. Hileman, M.D. ..... Southern District
20 East Ochoa Street, Tucson, Arizona
William B. Steen, M.D. ..... Southern District
116 North Tucson Boulevard, Tucson, Arizona
James T. O'Neil, M.D. ..... Southwestern District
113 West Second Street, Casa Grande, Arizona

DIRECTOR AT LARGE

Dermont W. Melick, M.D. ..... Past President
1005 Professional Building, Phoenix, Arizona

COUNTY MEDICAL SOCIETY OFFICERS FOR 1961

APACHE: Jerry T. Clifton, M.D., President, Box 758, Show Low, Arizona; Arnold H. Dysterheft, M.D., Secretary, McNary Hospital, McNary, Arizona.

COCHISE: Benjamin G. Rothman, M.D., President, P. O. Box 1192, Bisbee, Arizona; William W. McKinley, Jr., M.D., Secretary, P. O. Box 1192, Bisbee, Arizona.

COCONINO: James B. Wenzel, M.D., President, 1303 North Beaver St., Flagstaff, Arizona; John R. Caskey, M.D., Secretary, 2725 E. Lakin Drive, Flagstaff, Arizona.

GILA: Bert E. Lambrecht, M.D., President, Box 1837, Miami, Arizona; Bernard J. Collopy, M.D., Secretary, Box 342, Miami, Arizona.

GRAHAM: Frederick W. Knight, M.D., President, 618 Central Avenue, Safford, Arizona; Bruce N. Curtis, M.D., Secretary, 618 Central Avenue, Safford, Arizona.

GREENLEE: Charles B. Daniell, M.D., President, Morenci Hospital, Morenci, Arizona; Leopoldo Dulawa, M.D., Secretary, Morenci, Hospital, Morenci, Arizona.

MARICOPA: Robert A. Price, M.D., President, 3602 N. 15th Avenue, Phoenix, Arizona; Howard C. Lawrence, M.D., Secretary, 2021 North Central Avenue, Phoenix, Arizona. Society Office: 2025 North Central Ave., Phoenix, Arizona.

MOHAVE: Walter Brazie, M.D., President, Masonic Building, Kingman, Arizona; John J. Standifer, M.D., Secretary, 412 East Oak Street, Kingman, Arizona.

NAVAJO: Harry S. Beckwith, M.D., President, 101 S. Williamson Street, Winslow, Arizona; Donald F. DeMarse, M.D., Secretary, Box 397, Holbrook, Arizona.

PIMA: Clarence L. Robbins, M.D., President, 1608 North Norton Avenue, Tucson, Arizona; William L. Goodin, M.D., Secretary, 2430 E. Sixth Street, Tucson, Arizona. Society Office: 57 East Jackson Street, Tucson, Arizona.

PINAL: James B. Tucker, M.D., President, 703 N. Olive Street, Casa Brande, Arizona; James H. Boyd, M.D., Secretary, 291 West Wilson Avenue, Coolidge, Arizona.

SANTA CRUZ: Delmer R. Mock, M.D., President, 309 Duquesne Avenue, Patagonia, Arizona; Charles S. Smith, M.D., Secretary, Gebler Building, Nogales, Arizona.

YAVAPAI: Richard G. Hardenbrook, M.D., President, 316 Grove Avenue, Prescott, Arizona; William R. Shepard, M.D., Secretary, 506 West Gurley Street, Prescott, Arizona.

YUMA: William J. Nelson, M.D., President, 450 West 23rd Street, Yuma, Arizona; Abe I. Podolsky, M.D., Secretary, 1601 Fifth Avenue, Yuma, Arizona.

COMMITTEES – 1960-61

NOTE: The President, President-elect and Secretary are ex-officio members of all Committees unless otherwise specified.

ARTICLES OF INCORPORATION & BY-LAWS COMMITTEE: Paul B. Jarrett, M.D., Chairman (Phoenix); Paul L. Singer, M.D. (Phoenix); Lorel A. Stapley, M.D. (Phoenix).

BENEVOLENT & LOAN FUND COMMITTEE: Preston T. Brown, M.D., Chairman (Phoenix); Donald K. Buffmire, M.D. (Phoenix); Arthur V. Dudley, Jr., M.D. (Tucson); Carl H. Gans, M.D. (Morenci); Lorel A. Stapley, M.D. (Phoenix).

CENTRAL OFFICE ADVISORY COMMITTEE: Lorel A. Stapley, M.D., Chairman (Phoenix); Arthur V. Dudley, Jr., M.D. (Tucson); Clarence E. Yount, Jr., M.D. (Prescott).

EXECUTIVE COMMITTEE: Lindsay E. Beaton, M.D., Chairman (Tucson); Arthur V. Dudley, Jr., M.D. (Tucson); Leslie B. Smith, M.D. (Phoenix); Lorel A. Stapley, M.D. (Phoenix); Clarence E. Yount, Jr., M.D. (Prescott).

GRIEVANCE COMMITTEE: Dermont W. Melick, M.D., Chairman (Phoenix); Walter Brazie, M.D. (Kingman); Carlos C. Craig, M.D. (Phoenix); Robert E. Hastings, M.D. (Tucson); Oscar W. Thoeny, M.D. (Phoenix); Hugh C. Thompson, M.D. (Tucson); Florence H. B. Yount, M.D. (Prescott).

HISTORY & OBITUARIES COMMITTEE: Howell S. Randolph, M.D., Historian (Phoenix); John W. Kennedy, M.D. (Phoenix); Darwin W. Neubauer, M.D. (Tucson); Abe I. Podolsky, M.D. (Yuma); Lorel A. Stapley, M.D. (Phoenix).

INDUSTRIAL RELATIONS COMMITTEE: Frederick W. Knight, M.D., Chairman (Safford); John F. Currin, M.D. (Flagstaff); Juan E. Fonseca, M.D. (Tucson); Kenneth G. Rew, M.D. (Phoenix); John H. Ricker, M.D. (Phoenix); Robert W. Weber, M.D. (Tucson).

LEGISLATIVE COMMITTEE: Jesse D. Hamer, M.D., Chairman (Phoenix); John S. Carlson, M.D. (Nogales); Paul B. Jarrett, M.D. (Phoenix); W. Shaw McDaniel, M.D. (Phoenix); Reed D. Shupe, M.D. (Phoenix); Lavern D. Sprague, M.D. (Tucson); William B. Steen, M.D. (Tucson); George C. Truman, M.D. (Mesa); MacDonald Wood, M.D. (Phoenix).

MEDICAL ECONOMICS COMMITTEE: Ian M. Chesser, M.D., Chairman (Tucson); John A. Eisenbeiss, M.D. (Phoenix); Benjamin Herzberg, M.D. (Phoenix); James E. O'Hare, M.D. (Tucson); Donald A. Polson, M.D. (Phoenix); Paul L. Singer, M.D. (Phoenix).

MEDICAL SCHOOL COMMITTEE: Lindsay E. Beaton, M.D., Chairman (Tucson); W. Albert Brewer, M.D. (Phoenix); W. R. Manning, M.D. (Tucson); Dermont W. Melick, M.D. (Phoenix); Clarence L. Robbins, M.D. (Tucson).

MEDICO-LEGAL COMMITTEE: William B. McGrath, M.D., Chairman (Phoenix); Jesse D. Hamer, M.D. (Phoenix); Robert E. Hastings, M.D. (Tucson); Louis Hirsch, M.D. (Tucson); Wallace A. Reed, M.D. (Phoenix); Maurice Rosenthal, M.D. (Phoenix).

PROFESSIONAL COMMITTEE: John R. Schwartzman, M.D., Chairman (Tucson); Otto L. Bendheim, M.D., Sub-committee on Mental Diseases (Phoenix); Orin J. Farness, M.D., Sub-committee on General Medicine (Tucson); Ray Fife, M.D., Sub-committee on Crippled Children and Rehabilitation (Phoenix); Samuel J. Grauman, M.D., Sub-committee on Aging (Tucson); Richard B. Johns, M.D., Sub-committee on Maternal and Child Health (Phoenix); Howard W. Kimball, M.D., Sub-committee on Civil Defense and Safety (Phoenix); Robert B. Leonard, M.D., Sub-committee on Cancer and Medical Education (Phoenix); Blair W. Saylor, M.D., Sub-committee on Hospitals and Nursing (Tucson); Paul J. Slosser, M.D., Sub-committee on Venereal Disease and Medical Education (Yuma); Thomas H. Taber, Jr., M.D., Sub-committee on Rehabilitation and Industrial Health (Phoenix); Lowell C. Wormley, M.D., Sub-committee on General Medicine (Phoenix).

PROFESSIONAL LIAISON COMMITTEE: Noel G. Smith, M.D., Chairman (Phoenix); Ernest A. Born, M.D., Sub-committee on Woman's Auxiliary (Prescott); Max Costin, M.D., Sub-committee on Nurses (Tucson); Robert H. Cummings, M.D., Sub-committee on Allied Professions (Phoenix); Ben P. Frissell, M.D., Sub-committee on Public Health and Schools (Phoenix); William G. Payne, M.D., Sub-committee on Governmental Medical Staffs (Tempe); Lavern D. Sprague, M.D., Sub-committee on Association of Physicians and Surgeons (Tucson); Albert G. Wagner, M.D., Sub-committee on Careers and Arizona AMEF (Phoenix); Roy O. Young, M.D., (Flagstaff).

PUBLIC RELATIONS COMMITTEE: Roy O. Young, M.D., Chairman (Flagstaff); Howard W. Finke, M.D. (Superior); Walter T. Hileman, M.D. (Tucson); Paul B. Jarrett, M.D. (Phoenix); Clarence H. Kuhlman, M.D. (Tucson); W. R. Manning, M.D. (Tucson); Deward G. Moody, M.D. (Nogales); Roland F. Schoen, M.D. (Casa Grande); Leo L. Tuveson, M.D. (Phoenix).

PUBLISHING COMMITTEE: Darwin W. Neubauer, M.D., Chairman (Tucson); R. Lee Foster, M.D. (Phoenix); John R. Green, M.D. (Phoenix); Clarence L. Robbins, M.D. (Tucson).

SCIENTIFIC ASSEMBLY COMMITTEE: Leslie B. Smith, M.D., Chairman (Phoenix); James E. Brady, M.D. (Tucson); Richard E. H. Duisberg, M.D. (Phoenix); Richard O. Flynn, M.D. (Tempe); Fred L. Goff, M.D. (Douglas); David C. James, M.D. (Phoenix); Richard B. Johns, M.D. (Phoenix); William H. Lyle, M.D. (Yuma); Darwin W. Neubauer, M.D. (Tucson); Walter M. O'Brien, M.D. (Globe); Roland F. Schoen, M.D. (Casa Grande); John R. Schwartzmann, M.D. (Tucson); Clarence E. Yount, Jr., M.D. (Prescott).

Proven

in over six years of clinical use and
more than 750 published clinical studies

Effective

for relief of anxiety and tension

Outstandingly Safe

1 simple dosage schedule produces rapid, dependable tranquilization without unpredictable excitation

2 no cumulative effects, thus no need for difficult dosage readjustments

3 does not produce ataxia, change in appetite or libido

4 does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis

5 does not impair mental efficiency or normal behavior

Miltown®

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; in bottles of 50.

Also supplied in sustained-release capsules...

Meprospan®

Available as Meprospan-400 (blue-topped *sustained-release* capsules containing 400 mg. meprobamate), and Meprospan-200 (yellow-topped *sustained-release* capsules containing 200 mg. meprobamate).

CM-4238

WALLACE LABORATORIES / *Cranbury, N. J.*

OFFICERS OF THE AUXILIARY TO THE ARIZONA MEDICAL ASSOCIATION, 1960-61

President ..... Mrs. Robert H. Cummings
5830 E. Arcadia Lane, Phoenix
President-Elect ..... Mrs. Ian Chesser
414 N. Country Club, Tucson
1st Vice-President ..... Mrs. Frederick Knight
618 Central Avenue, Safford
2nd Vice-President ..... Mrs. John Currin
110 W. Birch Avenue, Flagstaff
Treasurer ..... Mrs. Herbert D. Welsh
Rte. 8, Box 66W, Tucson
Recording Secretary ..... Mrs. George Leih
4536 N. 9th Avenue, Phoenix
Corresponding Secretary ..... Mrs. Clare W. Johnson
318 W. Lawrence Rd., Phoenix
Director (1 year) ..... Mrs. Hiram Cochran
35 Camino Espanol, Tucson
Director (1 year) ..... Mrs. Theodore Harper
175 South Third Street, Globe
Director (2 years) ..... Mrs. Robert S. Keller
626 Sixth Ave., Safford

STATE COMMITTEE CHAIRMEN, 1960-61

Bulletin ..... Mrs. Paul Slosser
701 8th Avenue, Yuma
Chaplain ..... Mrs. Paul Jarrett
501 E. Pasadena, Phoenix
Civil Defense ..... Mrs. Stanford Farnsworth
4125 N. Jokake Drive, Phoenix
Community Service ..... Mrs. Thomas Rowley
114 S. Miller, Mesa
Finance ..... Mrs. Robert Gullen
5003 N. 22nd Street, Phoenix
Historian ..... Mrs. Melvin Phillips
829 Flora Street, Prescott
Legislation ..... Mrs. Everett Dean
310 W. State, Phoenix
Medical Education Fund ..... Mrs. H. R. Estes
6911 Soyaluna Place, Tucson
Mental Health ..... Mrs. L. L. Stolfa
204 E. Pomona, Phoenix
Newsletter ..... Mrs. John T. Clymer
201 W. Flynn Lane, Phoenix
Nominating ..... Mrs. Hiram Cochran
35 Camino Espanol, Tucson
Health Careers ..... Mrs. Howard Purcell
100 E. Ocotillo, Phoenix
Parliamentarian ..... Mrs. John Eisenbeiss
99 W. Northview, Phoenix
Publicity ..... Mrs. Roy Young
Box 1058, Flagstaff
Revisions ..... Mrs. Jesse Hamer
1819 N. 11th Avenue, Phoenix
Safety ..... Mrs. Max Costin
2648 E. 4th Street, Tucson
Student Nurse Loan Fund ..... Mrs. Juan Fonseca
2505 Indian Ridge, Tucson

COUNTY PRESIDENTS AND OFFICERS, 1960-61

COCONINO COUNTY

President ..... Mrs. John Kahle
2412 N. Talkington, Flagstaff
Vice-President ..... Mrs. James Wenzel
2143 N. Navajo Dr., Flagstaff
Secretary ..... Mrs. John Caskey
2725 E. Lakin, Flagstaff
Treasurer ..... Mrs. Garland Wood
Flagstaff Hospital, Flagstaff

GILA COUNTY

President ..... Mrs. B. B. Lambrecht
Box 1837, Miami
Vice-President ..... Mrs. W. C. Fowkes
1207 Miami, Arizona
Secretary-Treasurer ..... Mrs. W. M. O'Brien
1177 E. Monroe, Globe

MARICOPA COUNTY

President ..... Mrs. Shaw McDaniel
114 E. Tuckey Lane, Phoenix
President-Elect ..... Mrs. Richard Johns
508 W. Rose Lane, Phoenix
1st Vice-President ..... Mrs. Robert Gullen
5003 N. 22nd St., Phoenix
Recording Secretary ..... Mrs. John E. Schramel
550 W. Thomas, Phoenix
Treasurer ..... Mrs. Joe Bonnet
450 E. Ocotillo Rd., Phoenix

PIMA COUNTY

President ..... Mrs. F. Landeen
4747 E. Ft. Lowell
President-Elect ..... Mrs. F. Hirsh
5817 E. Alpine
1st Vice-President ..... Mrs. H. Welsh
3337 E. Terra Alta
2nd Vice-President ..... Mrs. H. Estes
6911 Soyaluna
Recording Secretary ..... Mrs. E. Baldwin
3320 N. Martin
Corresponding Secretary ..... Mrs. P. Dew
4112 E. Fifth
Treasurer ..... Mrs. S. Shapiro
5433 E. Eighth
Civil Defense ..... Mrs. W. Havemeyer
5305 Peppertree Circle

YAVAPAI COUNTY

President ..... Mrs. James C. Soderstrom
Box 82, Whipple
Vice-President ..... Mrs. Donald W. Merkle
U. S. Veterans' Hospital, Whipple
Secretary ..... Mrs. William R. Shepard
1106 Dixon Drive, Prescott
Treasurer ..... Mrs. Melvin W. Phillips
829 Flora Avenue, Prescott

YUMA COUNTY

President ..... Mrs. William J. Nelson, Jr.
2808 Vista Lane, Yuma
Vice-President ..... Mrs. William H. Lyle
1400 16th Place, Yuma
Secretary ..... Mrs. Ralph T. Irwin
728 6th Avenue, Yuma
Treasurer ..... Mrs. Herbert C. Kling
1335 8th Avenue, Yuma

SOCIEDAD MEDICA DE ESTADOS UNIDAS DE NORTEAMERICA Y MEXICO

MEDICAL SOCIETY OF THE UNITED STATES & MEXICO

President ..... Dr. Ignacio Chavez
Edificio Profesional, Pavo No. 112, Guadalajara, Jalisco, Mex.
President Elect ..... Dr. Juan E. Fonseca
2409 E. Adams, Tucson, Arizona
Vice President ..... Dr. E. Contreras Reyna
Marsella 125 Norte, Guadalajara, Jalisco, Mexico
Secretario ..... Dr. Fausto Zeron Medina
Guadalajara, Jalisco, Mexico
Secretary ..... Dr. M. A. Carreras
130 South Scott, Tucson, Arizona
Executive Secretary ..... Byron Browder
Tucson, Arizona
Secretario Ejecutivo ..... Alfredo E. Patron
Mazatlan, Sinoloa, Mexico
Treasurer ..... Dr. Robert E. Hastings
1014 N. Country Club, Tucson, Arizona
Tesorero ..... Dr. E. Gonzalez Murguia
Juarez 673, Guadalajara, Jalisco, Mexico

COORDINATING COMMITTEE

COMITE COORDINATOR

Dr. Harry E. Thompson

Dr. Hector Gonzalez Guevara

Dr. Ignacio Chavez

Dr. W. R. Manning

Vertigo is reversible

Antivert® STOPS VERTIGO

moderate to complete relief of symptoms in 9 out of 10 patients'

Prescribe one ANTIVERT tablet (or 1-2 teaspoonfuls ANTIVERT syrup) 3 times daily, before each meal, for prompt relief of vertigo, Meniere's syndrome and allied disorders. Side effects are short-lived, usually only harmless flushing and tingling associated with vasodilation. ANTIVERT is contraindicated in severe hypotension and hemorrhage.

Supplied: Small blue-and-white scored tablets (meclizine HCl 12.5 mg. and nicotinic acid 50 mg.) in bottles of 100. Syrup in pint bottles. Prescription only. Bibliography available on request.

And for your aging patients—
NEOBON® Capsules: five-factor geriatric supplement.

Reference: 1. Scal, J. C.: Eye Ear Nose & Throat Month. 38:738 (Sept.) 1959.

ROERIG Rx

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being®

now available:

Antivert syrup

Each teaspoonful (5 cc.) contains 6.25 mg. meclizine HCl and 25 mg. nicotinic acid.

Arizona Medical Association Reports

Arizona Medicine

April, 1961 Vol. 18, No. 4

Arma Disability Insurance — Group Plan

This Article is written to reacquaint you with your Association's outstanding Disability Program.

Since July 15, 1953 the National Casualty Company has underwritten our Plan. This Company is one of the largest underwriters of Association Group Insurance in the United States specializing in this type of coverage for over twenty years. The Arizona Medical Association Group Plan is one of the most comprehensive written anywhere and consists of three policies. The first is a Basic Group Disability Plan that pays a total disability benefit of $300.00 per month from the first day of accident for a period of five years. Sickness is payable from the eighth day of disability for as long as two years. This contract also provides an additional payment of $7.00 per day while the insured is hospitalized, for a maximum of 70 days and $25.00 for miscellaneous expenses. Accidental Death Benefit is $2,500.00. Dismemberment ranges from $2,500.00 to $10,000.00, depending on loss. On December 1, 1955 this Plan was further enhanced by the addition of the Extended Coverage Disability Plan which increased the length of time for which benefits of the Basic Plan are payable to seven year sickness and lifetime accident.

Many doctors over the past few years have requested additional monthly indemnity. As a result the Company has made available to its members the supplementary Association Disability Policy which can be purchased by insurable members in amounts of multiples of $100.00 not to exceed $300.00. This, together with the Basic Policy, provides monthly indemnity in amounts up to 600 tax free dollars a month.

The Basic Policy is available to all new members who apply within 60 days without evidence of insurability and is renewable as long as the insured remains a member of the Association and continues in the practice of medicine.

The Extended Disability Policy is also available to all new members of the Association if applied for within 60 days of membership. Based upon past medical history the Company may issue the policy for either $300.00 or $200.00 per month and is renewable through age 65. The supplemental Association Disability Policy is available to all insurable members of the Association and is renewable through age 69.

Once issued these policies cannot be individually terminated or restricted because of health conditions originating after issuance of the contracts.

Since the inception of our disability program on July 15, 1953 our members have received benefits in excess of a quarter of a million dollars. During the year of 1960 monthly payments averaging $3,500.00 were made to members of our Association who have been disabled due to sickness or accident.

Today... a growing bibliography confirms the importance in modern medical practice of

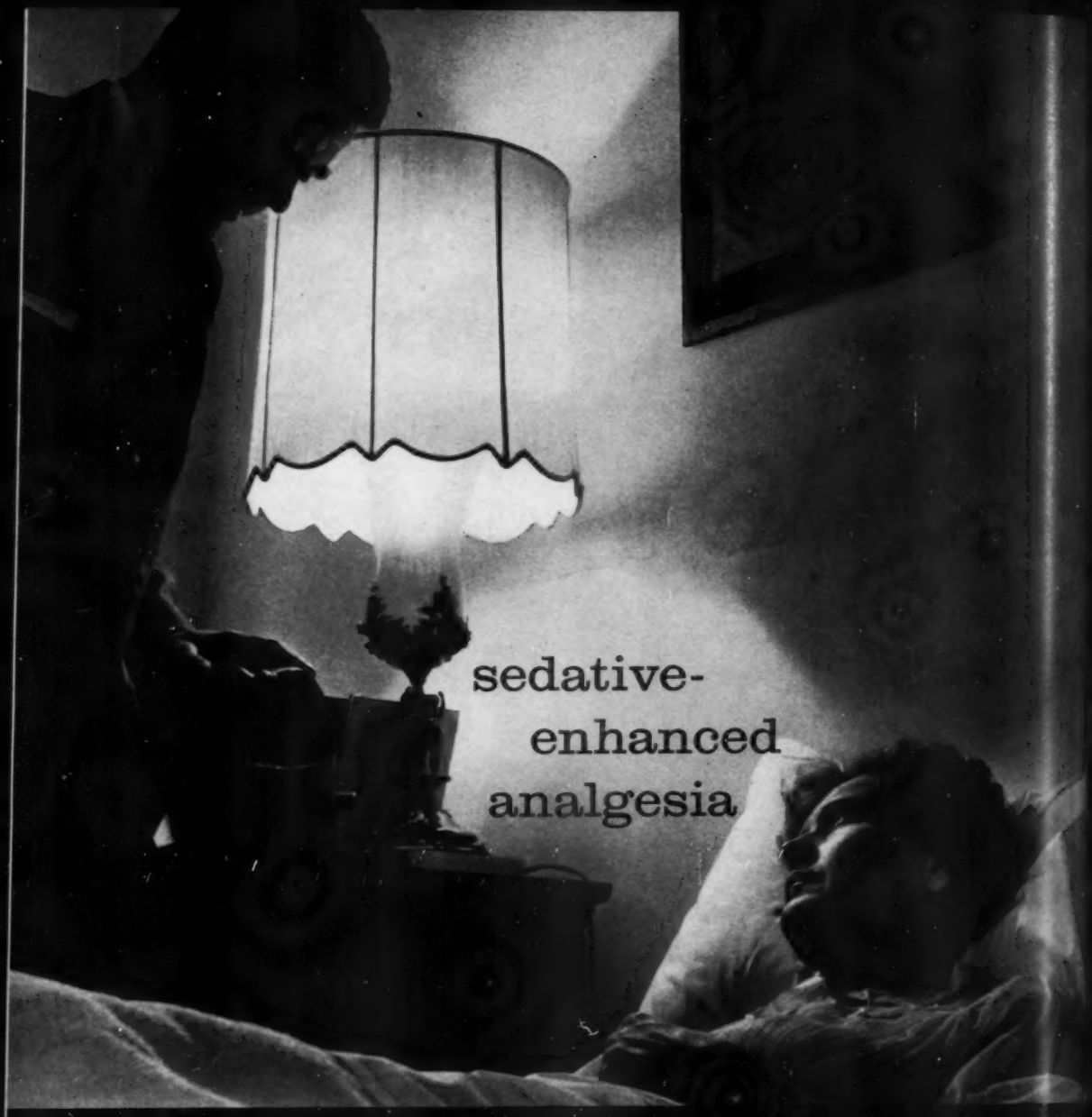
wine

"In...recent years,...comprehensive programs of wine research have been instituted in many university laboratories and clinics....Among the most recent findings are new evidence of *dry* wines' value in the treatment of diabetes...; the detection of wine components which act as mild cardiac stimulants; marked effects in reducing basic emotional tension...in protecting against the shocks of sudden stimuli (both of these at very moderate blood-alcohol levels), and somewhat startling values in treating diseases of the digestive tract.

"Especially good news to doctors are findings that certain wines are the most effective natural liquid stimulants of appetite for their convalescent patients; that the low sodium content of the beverage permits its inclusion in the unpleasant low-salt diets of patients with heart trouble; and, finally, measured proof of wine's value in promoting euphoria."*

For a scientific discussion of the modern ℞ uses for wine in convalescence, cardiology, urology, geriatrics, write for "Uses of Wine in Medical Practice," Wine Advisory Board, 717 Market Street, San Francisco 3, California.

*Adams, L. D.: The Commonsense Book of Wine, New York, David McKay Company, Inc., 1958, pp. 162-163.



PHENAPHEN®

- More satisfactory than "the usual analgesic compounds" for relieving pain and anxiety.[1]
- More effective than a standard A.P.C. preparation for relief of moderate to severe pain.[2]

Each PHENAPHEN *capsule contains:*

Acetylsalicylic acid (2½ gr.)	162 mg.
Phenacetin (3 gr.)	194 mg.
Phenobarbital (¼ gr.)	16.2 mg.
Hyoscyamine sulfate	0.031 mg.

Also available:

PHENAPHEN with CODEINE PHOSPHATE
¼ GR. (16.2 mg.) Phenaphen No. 2
PHENAPHEN with CODEINE PHOSPHATE
½ GR. (32.4 mg.) Phenaphen No. 3
PHENAPHEN with CODEINE PHOSPHATE
1 GR. (64.8 mg.) Phenaphen No. 4

Bottles of 100 and 500 capsules.

1. Meyers, G. B.: Ind. Med. & Surg. 26:3, 1957. 2. Murray, R. J.: N. Y. St. J. Med. 53:1867, 1953.

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA
Making today's medicines with integrity... seeking tomorrow's with persistence.

Robins

ANNOUNCING—
SPECIFICALLY FOR
INFECTIONS DUE TO
"RESISTANT" STAPHYLOCOCCI

AN ENTIRELY NEW SYNTHETIC
"STAPH-CIDAL" PENICILLIN

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

UNIQUE—BECAUSE IT
RETAINS ANTIBACTERIAL
ACTIVITY IN THE PRESENCE OF
STAPHYLOCOCCAL PENICILLINASES
WHICH INACTIVATE
OTHER PENICILLINS

Bristol™

NEW SYNTHETIC PENICILLIN FOR "RESISTANT" STAPH

CUT HERE FOR FILING

UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN

OFFICIAL PACKAGE CIRCULAR
November, 1960

STAPHCILLIN™

(sodium dimethoxyphenyl penicillin)

For Injection

DESCRIPTION

STAPHCILLIN is a unique new synthetic parenteral penicillin produced by Bristol Laboratories for the specific treatment of staphylococcal infections due to resistant organisms. Its uniqueness resides in its property of resisting inactivation by staphylococcal penicillinase. It is active against strains of staphylococci which are resistant to other penicillins.

Each dry filled vial contains: 1 Gm. STAPHCILLIN (sodium dimethoxyphenyl penicillin), equivalent to 900 mg. dimethoxyphenyl penicillin activity.

INDICATIONS

STAPHCILLIN is recommended as specific therapy only in infections due to strains of staphylococci resistant to other penicillins, e.g.:

Skin and soft tissue infections: cellulitis, wound infections, carbuncles, pyoderma, furunculosis, lymphangitis and lymphadenitis.

Respiratory infections: staphylococcal lobar or bronchopneumonia, and lung abscesses combined with indicated surgical treatment.

Other infections: staphylococcal septicemia, bacteremia, acute or subacute endocarditis, acute osteomyelitis and enterocolitis.

Infections due to penicillin-sensitive staphylococci, streptococci, pneumococci and gonococci should be treated with Syncillin® or parenteral penicillin G rather than STAPHCILLIN. Treponemal infections should be treated with parenteral penicillin G.

DOSAGE AND ADMINISTRATION

STAPHCILLIN is well tolerated when given by deep intragluteal or intravenous injection.

As is the case with other antibiotics, the duration of therapy should be determined by the clinical and bacteriological response of the patient. Therapy should be continued for at least 48 hours after the patient has become afebrile, asymptomatic and cultures are negative. The usual duration has been 5-7 days.

Intramuscular route: The usual adult dose is 1 Gm. every 4 or 6 hours. Infants' and children's dosage is 25 mg. per Kg. (approximately 12 mg. per pound) every 6 hours.

Intravenous route: 1 Gm. every 6 hours using 50 ml. of sterile saline solution at the rate of 10 ml. per minute.

**Warning:* Solutions of STAPHCILLIN and kanamycin should not be mixed, as they rapidly inactivate each other. Data on the results of mixing STAPHCILLIN with other antibiotics are being accumulated.

DIRECTIONS FOR RECONSTITUTION

Add 1.5 ml. sterile distilled water or normal saline to a 1 Gm. vial and shake vigorously. Withdraw the clear, reconstituted solution (2.0 ml.) into a syringe and inject. The reconstituted solution contains 500 mg. of STAPHCILLIN per ml. Reconstituted solutions are stable for 24 hours under refrigeration.

For intravenous use, dilute the reconstituted dose in 50 ml. of sterile saline and inject at the rate of 10 ml. per minute.

*This statement supersedes that in the Official Package Circulars dated September and/or October, 1960.

(continued)

CUT HERE FOR FILING

OFFICIAL PACKAGE CIRCULAR
(continued)

MICROBIOLOGICAL AND PHARMACOLOGICAL PROPERTIES

In vitro studies show that STAPHCILLIN is a bactericidal penicillin with activity against staphylococci resistant to penicillin G. Strains of staphylococci so far tested have been sensitive to STAPHCILLIN *in vitro* at concentrations of 1-6 mcg. per ml. These levels are readily attained in the blood and tissues by administration of STAPHCILLIN at the recommended dosage. This unique attribute is probably due to the fact that STAPHCILLIN is stable in the presence of staphylococcal penicillinase. STAPHCILLIN also resists degradation by *B. cereus* penicillinase. The antimicrobial spectrum of STAPHCILLIN with regard to other microorganisms is qualitatively similar to that of penicillin G; but considerably higher concentrations of STAPHCILLIN are required for bactericidal activity than is the case with penicillin G.

STAPHCILLIN is rapidly absorbed after intramuscular injection. Peak blood levels (6-10 mcg./ml. on the average after a 1.0 Gm. dose) are attained within 1 hour; and then progressively decline to less than 1 mcg. over a 4 to 6 hour period. It is poorly absorbed from the gastrointestinal tract. STAPHCILLIN is rapidly excreted by the kidney.

As shown by animal studies, STAPHCILLIN is readily distributed in body tissues after intramuscular injection. Of the tissues studied, highest concentrations are reached in the kidney, liver, heart and lung in that order; the spleen and muscles show lower concentrations of the antibiotic. STAPHCILLIN diffuses into human pleural and prostatic fluids, but its diffusion into the spinal fluid has not yet been completely studied. However, one patient with meningitis showed a significant concentration in his spinal fluid while on STAPHCILLIN therapy.

Toxicity studies with STAPHCILLIN and penicillin G in animals show that they have approximately the same low order of toxicity.

Certain staphylococci can be made resistant to STAPHCILLIN in the laboratory, but this resistance is not related to their penicillinase production. During the clinical trials, no STAPHCILLIN-resistant strains of staphylococci were observed or developed; the possibility of the emergence of such strains in the clinical setting awaits further observation.

PRECAUTIONS

During the clinical trials, several mild skin reactions, e.g., itching, papular eruption and erythema were observed both during and after discontinuance of STAPHCILLIN therapy. Patients with histories of hay fever, asthma, urticaria and previous sensitivity to penicillin are more likely to react adversely to the penicillins. It is important that the possibility of penicillin anaphylaxis be kept in mind. Epinephrine and the usual adjuvants (antihistamines, corticosteroids) should be available for emergency treatment. Because of the resistance of STAPHCILLIN to destruction by penicillinase, parenteral *B. cereus* penicillinase may not be effective for the treatment of allergic reactions. Information with regard to cross-allergenicity between penicillin G, penicillin V, phenethicillin (Syncillin) and STAPHCILLIN is not available at present. If superinfection due to Gram-negative organisms or fungi occurs during STAPHCILLIN therapy, appropriate measures should be taken.

SUPPLY

List 79502 — 1.0 Gm. dry filled vial.

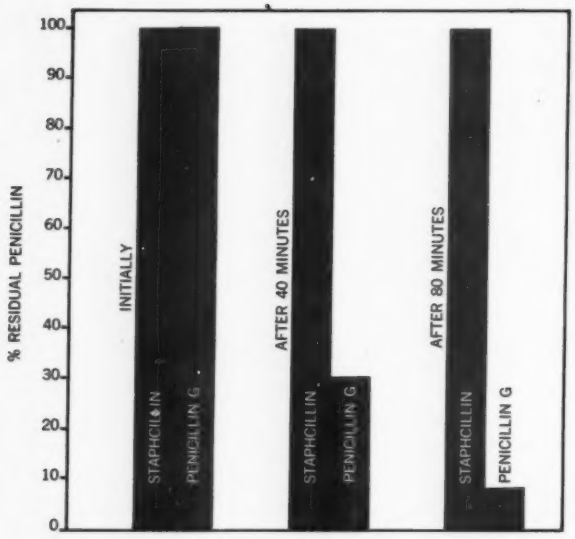
BRISTOL LABORATORIES • SYRACUSE, NEW YORK
Division of Bristol-Myers Company

CUT HERE FOR FILING

NEW SYNTHETIC PENICILLIN FOR "RESISTANT" STAPH

CUT HERE FOR FILING

UNIQUE SYNTHETIC "STAPH-CIDAL" PENICILLIN



In the presence of staphylococcal penicillinase, STAPHCILLIN remained active and retained its antibacterial action. By contrast, penicillin G was rapidly destroyed in the same period of time. *(After Gourevitch et al., to be published)*

Specifically for "resistant" staph...

Staphcillin™

sodium dimethoxyphenyl penicillin
FOR INJECTION

The failure of staphylococcal infections to respond to penicillin therapy is attributed to the penicillin-destroying enzyme, penicillinase, produced by the invading staphylococcus.

Unlike other penicillins:

1 STAPHCILLIN is effective because it retains its antibacterial activity despite the presence of staphylococcal penicillinase.

2 The clinical effectiveness of STAPHCILLIN has been confirmed by dramatic results in a wide variety of infections due to "resistant" staphylococci, many of which were serious and life-threatening.

Like other penicillins:

STAPHCILLIN has no significant systemic toxicity. It is well tolerated locally, and pain or irritation at the injection site is comparable to that following the injection of penicillin G. *In occasional cases, typical penicillin reactions may be experienced.*

PROFESSIONAL INFORMATION SERVICE – The attached Official Package Circular provides complete information on the indications, dosage, and precautions for the use of STAPHCILLIN. If you desire additional information concerning clinical experiences with STAPHCILLIN, the Medical Department of Bristol Laboratories is at your service. You may direct your inquiries via collect telephone call to New York, PLaza 7-7061, or by mail to Medical Department, Bristol Laboratories, 630 Fifth Ave., N. Y. 20, N. Y.

BRISTOL LABORATORIES • SYRACUSE, NEW YORK

Division of Bristol-Myers Company

MILD—MODERATE—**SEVERE**
GASTROINTESTINAL DISORDERS

Pro-Banthīne®

Brand of propantheline bromide

TABLETS
AMPULS

One characteristic of Pro-Banthīne which has won it general medical acceptance is its versatility. Pro-Banthīne has proved highly useful in the management of gastrointestinal disorders varying widely in both symptoms and severity.

In peptic ulcer and in other disorders characterized by hyperacidity, hypermotility or spasm of the enteric tract, Pro-Banthīne controls symptoms with a consistency attested in more than 375 published reports.

This therapeutic proficiency results not merely from the high level of pharmacodynamic activity of Pro-Banthīne but also from a favorable balance of its actions on both autonomic ganglia and parasympathetic effector organs. The total effect of this activity permits doubling or tripling the usual dosage to relieve severe or intractable conditions without unduly extending or aggravating secondary actions.

Less than a satisfactory response[1] to Pro-Banthīne may often be simply a result of less than adequate dosage.

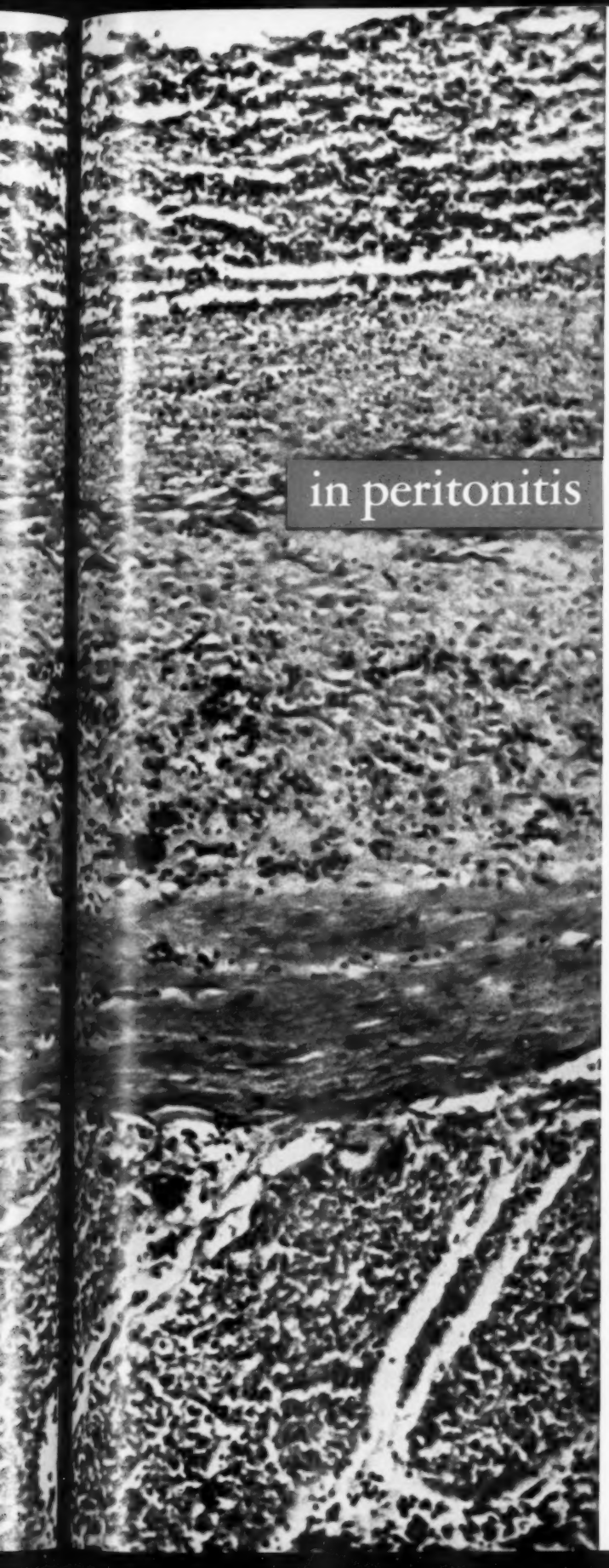
Pro-Banthīne, brand of propantheline bromide, is supplied in tablets of 15 mg. for oral administration in conditions such as peptic ulcer, gastritis, duodenitis, pylorospasm, biliary dyskinesia and spastic colon, and in ampuls of 30 mg. for intramuscular or intravenous administration in conditions such as ureteral spasm and pancreatitis in which prompt and vigorous effects are required or when nausea and vomiting preclude oral administration.

Usual adult dosage: One tablet four times daily. Up to four tablets may be administered four times daily for severe manifestations.

When emotional factors prevail —
PRO-BANTHĪNE® with DARTAL®
Brand of propantheline bromide with thiopropazate dihydrochloride
(Not more than four tablets daily.)
or
PRO-BANTHĪNE® with Phenobarbital

1. Krantz, J. C., Jr., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1958, p. 843.

G. D. SEARLE & CO., CHICAGO 80, ILLINOIS. *Research in the Service of Medicine*



Therapeutic confidence

Panalba is effective against more than 30 commonly encountered pathogens including ubiquitous staphylococci. Right from the start, prescribing it gives you a high degree of assurance of obtaining the desired anti-infective action in this as in a wide variety of bacterial diseases.

Supplied: Capsules, each containing Panmycin* Phosphate (tetracycline phosphate complex), equivalent to 250 mg. tetracycline hydrochloride, and 125 mg. Albamycin,* as novobiocin sodium, in bottles of 16 and 100.

Adult dosage: 2 capsules four times a day.

Side effects: Panmycin Phosphate has a very low order of toxicity comparable to that of the other tetracyclines and is well tolerated clinically. Side reactions to therapeutic use in patients are infrequent and consist principally of mild nausea and abdominal cramps.

Albamycin also has a relatively low order of toxicity. In a certain few patients, a yellow pigment has been found in the plasma. This pigment, apparently a metabolic by-product of the drug, is not necessarily associated with abnormal liver function tests.

Urticaria and maculopapular dermatitis, a few cases of leukopenia, and agranulocytosis have been reported in patients treated with Albamycin. All of these side effects rapidly disappeared upon discontinuance of the drug.

Caution: Since the use of any antibiotic may result in overgrowth of nonsusceptible organisms, constant observation of the patient is essential. If new infections appear during therapy, appropriate measures should be taken.

As with any serious infection, therapy of peritonitis with Panalba or other antibacterial agents is adjunctive to surgical procedures and supportive therapy.

Inflammatory process of the peritoneum

*Trademark, Reg. U. S. Pat. Off.

The Upjohn Company
Kalamazoo, Michigan

Upjohn

75th year

Panalba*

your broad-spectrum antibiotic of *first* resort

Theragran®

SQUIBB VITAMINS FOR THERAPY

For your patients with infections or other illnesses who need therapeutic vitamin support. Each Theragran supplies the essential vitamins in truly therapeutic amounts:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Mononitrate	10 mg.
Riboflavin	10 mg.
Niacinamide	100 mg.
Vitamin C	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12}	5 mcg.

SQUIBB *Squibb Quality—the Priceless Ingredient*

"Theragran"® is a Squibb trademark

"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 29:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]
3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]
8. Duncan G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

FOR FULL INFORMATION SEE YOUR SQUIBB PRODUCT REFERENCE OR PRODUCT BRIEF.

an added measure of protection for little patients

against relapse
against "problem" pathogens

DECLOMYCIN®

DEMETHYLCHLORTETRACYCLINE LEDERLE

pediatric drops
syrup

● full antibiotic activity ● lower milligram intake per dose ● up to 6 days' activity with 4 days' dosage ● uniformly high, sustained peak activity ■ **syrup** (cherry-flavored), 75 mg./5 cc. tsp., bottles of 2 and 16 fl. oz. Dosage: 3 to 6 mg./lb./day—in four divided doses. **pediatric drops,** 60 mg./cc., 3 mg./drop, 10 cc. bottles with calibrated dropper. Dosage: 1 to 2 drops/lb./day—in four divided doses.

PRECAUTIONS: As with many other antibiotics, DECLOMYCIN may occasionally give rise to glossitis, stomatitis, proctitis, nausea, diarrhea, vaginitis or dermatitis. A photodynamic reaction to sunlight has been observed in a few patients on DECLOMYCIN. Although reversible by discontinuing therapy, patients should avoid exposure to intense sunlight. If adverse reaction or idiosyncrasy occurs discontinue medication. Overgrowth of nonsusceptible organisms is a possibility with DECLOMYCIN, as with other antibiotics. The patient should be kept under observation.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

without steroids this arthritic miner might still be spoon-fed

On METICORTEN, he has worked steadily for six years with no serious side effects

J. G.'s rheumatoid arthritis started in 1949 with severe and unremitting pain in his shoulders. Later, his wrists, elbows, feet and hands became involved with swelling and loss of function. By 1951, when he was 45, the patient was helpless and had to be fed and dressed by his wife. He was frequently hospitalized during the next three years. Hydrocortisone failed to make any change in his condition.

On April 2, 1955, the patient was placed on METICORTEN and improved promptly. Two weeks later he stated, "I feel very well now." He was able to go back to work as a mine electrician that year and had no difficulty driving a car.

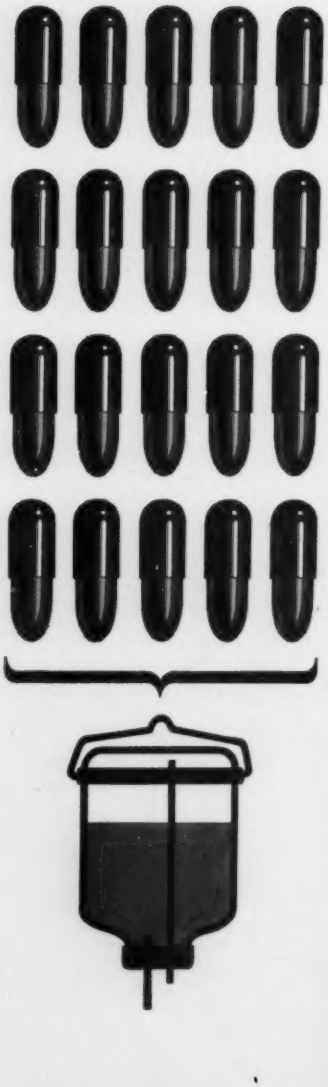
For the past six years, he has been maintained on METICORTEN 5 mg. two or three times a day. There have been no side effects. The patient has not lost any work time, nor has he had to limit his activities in any way.

Case history courtesy of Joel Goldman, M.D., Johnstown, Pa. These photographs of Dr. Goldman's patient were taken on November 10, 1960.

METICORTEN,® brand of prednisone.

SCHERING CORPORATION • BLOOMFIELD, NEW JERSEY

8-783



■ See
both blood picture
and patient respond to

TRINSICON®

(hematinic concentrate with intrinsic factor, Lilly)

For a rapid hematological response
. . . striking clinical improvement

Two Pulvules® Trinsicon daily are capable of producing in ten days an Hb and RBC response comparable to that obtained after a transfusion of one pint of whole blood. For potent, complete anemia therapy, prescribe Trinsicon . . . *just 2 a day for all treatable anemias.*

Two Pulvules Trinsicon (daily dose) provide:

Special Liver-Stomach Concentrate, Lilly (containing Intrinsic Factor) . . . . 300 mg.

Vitamin B_{12} with Intrinsic Factor Concentrate, N.F. . . . . 1 N.F. unit (oral)

Cobalamin Concentrate, N.F., equivalent to Cobalamin . . . . . 15 mcg.
(The above three ingredients are clinically equivalent to 1½ N.F. units of APA potency.)

Ferrous Sulfate, Anhydrous . . . . . 600 mg.
(Equal to over 1 Gm. Ferrous Sulfate, U.S.P.)

Ascorbic Acid (Vitamin C) . . . . . 150 mg.

Folic Acid . . . . . 2 mg.

119008

Vol. 18, No. 4 April, 1961

The Polyoma Story

A. W. Ham, M.D.
A. A. Axelrad, M.D.
A. F. Howatson, M.D.
E. A. McCulloch, M.D.

A most interesting analysis of an unique virus that produces different kinds of tumors in different species of animals — the polyoma virus. Tumors being induced if injected into newborn animals, but not if injected into older animals. This is a clear, concise report.

In the last decade there has been an intensification and broadening of interest in the possible relation of viruses to cancer. There are two factors responsible for this changing attitude. The first is the impressive experimental studies of the past decade which have shown that many kinds of tumors can be induced in mice, rats and hamsters if members of these species are injected with certain viruses *at birth*. The second is the newer knowledge of viruses, cells and virus-cell interrelationships, which now make it possible to visualize how viruses could cause tumors by changing the genetic nature of cells, that is by causing mutations in body cells. In telling the story of the polyoma virus, we shall see how these two factors complement each other.

The research work by the Toronto group described in this review was supported in part by a grant from the National Cancer Institute of Canada and in part by a grant from the National Institutes of Health, U.S.A. (Grant C-4964).

Presented at the Ninth Annual Cancer Seminar of the Arizona Division of the American Cancer Society, Tucson, January 12, 1961.

Department of Medical Biophysics, University of Toronto; and Division of Biological Research, Ontario Cancer Institute, Toronto, Canada.

The polyoma story began with the development, by Jacob Furth, of an inbred strain of mice, called the AK strain which is distinguished by the fact that the members of this strain almost all develop leukemia spontaneously. It may be of interest to describe how an inbred strain of this type is usually developed. Neoplasia develops spontaneously in mice just as it does in man. To develop a special strain, different families of mice are kept in isolation, and whenever any parent mouse develops neoplasia, children of that parent are inbred. By repeating the process at each generation, a pure strain of inbred mice can be developed with the incidence of some type of neoplasia in the strain increasing steadily.

The next step in the story was of tremendous importance. Dr. Ludwig Gross of the Veterans' Hospital, Bronx, New York, had enough courage and imagination to question if the leukemia that developed spontaneously in these AK mice was due to a virus. To test this hypothesis, he

made cell-free extracts of the leukemic tissues of these mice and injected the extracts into mice of a kind that seldom develop leukemia. He did not achieve success until he began injecting his extracts into newborn mice, but when he did this, he found that a significant number of these, as they grew older, developed leukemia.(1,2)

The next contribution of importance was the observation made both by Gross(3) and by Sarah Stewart.(4) They both found that mice injected at birth with cell-free extracts of the leukemic tissues of AK mice sometimes developed parotid tumors. The next and very important finding came a few years later. Stewart, Eddy, *et al.*(5,6,7,8) showed that if tissue cultures of mouse embryo cells were inoculated with extracts of the leukemic tissues of AK mice, a virus would grow in the cells of the culture and destroy them. Then, if the lysates of the cultures were injected into newborn mice of the Swiss strain, the mice, as they grew older, would develop, not leukemia, but a great variety of solid tumors, including carcinomas of the parotid gland.

Sarah Stewart and her associates next injected lysates from their tissue cultures into newborn rats and hamsters and found that both the rats and the hamsters developed sarcomas.(9,10) These developed in the kidney, the heart and in other sites. Since the virus that they had been able to cultivate in tissue culture caused so many different kinds of tumors, they called it the *polyoma virus*.

It did seem peculiar, however, that although the virus that was cultivated in tissue culture had been obtained from the leukemic tissues of AK mice, that it did not, after passage in tissue culture, induce leukemia in the mice into which it was injected, but instead, a dozen and a half other kinds of tumors. In this connection it will be recalled that both Gross and Stewart had observed that occasionally, newborn mice injected with extracts of the leukemic tissues of AK mice, developed parotid tumors. This raised the question as to whether or not there were two viruses in the leukemic tissues of AK mice, one that caused the leukemia, but which did not grow in tissue culture, and another which under usual conditions, caused no tumors, but which, if it were injected into newborn mice, would produce tumors of the parotid gland, and which, if it were cultivated in tissue culture, would produce a whole spectrum of tumors, including parotid tumors. Gross(1) soon came to the conclusion that there were two viruses in the leukemic tissues of AK mice, one that causes leukemia, and another which could, under the right circumstances, cause parotid tumors. He called the latter one a parotid-tumor-inducing virus. It soon became apparent that it was this virus and not the leukemia virus that could be propagated in tissue cultures, and hence that the polyoma virus of Stewart and Eddy was the parotid-tumor virus. It is still not known whether the parotid tumor virus and the polyoma virus are absolutely identical. It seems probable that they are, and that the greater tumor-inducing properties of the virus from tissue culture is due to its greater concentration, and also to the fact that in tissue culture it is removed from inhibitors which may be present in the animal from which it is recovered.

This, then, was a very curious situation. The virus that could be cultivated in tissue culture, and which would then induce a whole spectrum of neoplasms when it was injected into newborn animals, was merely a passenger virus in the leukemic tissues from which it was obtained. It was causing no tumors in the animals from which it was obtained and its tumor-inducing abilities would probably never have been learned if extracts containing it had not been introduced into tissue cultures and injected into newborn animals. It can be present in, or injected into, older animals without causing tumors.

It was just about this time that we began our studies in this field. We had a somewhat similar experience, for we recovered polyoma virus from a tumor that was caused not by it, but by another tumor virus.(12,13)

As is well known, spontaneous mammary tumors that develop in C3H mice are associated with a virus commonly termed the mammary tumor agent. Dr. McCulloch of our group made an extract of a tumor of this type and, indeed, the mammary tumor agent was demonstrated in this tumor with the electron microscope. A culture of mouse embryo cells was inoculated

with an extract of the tumor. A cytopathogenic effect (CPE) was observed in the culture on the 13th day. Inoculations of further cultures, with extracts from the first, resulted in cytopathogenic effects appearing on the 5th or 6th day, and thereafter, on further transfers, a CPE occurred regularly on the 5th to 6th day. Since several newborn Swiss mice inoculated with fluid from the cultures developed parotid tumors, newborn hamsters were injected with the extracts to help determine whether or not we had recovered polyoma virus from the mouse mammary tumor. The inoculated hamsters developed both kidney and heart sarcomas, which tumors Stewart, Eddy and their associates had shown did develop in hamsters inoculated with polyoma virus. Newborn rats, injected with our virus also developed sarcomas similarly to rats injected with polyoma virus by Stewart, Eddy, *et al.* We therefore, concluded that we had recovered a polyoma virus from the C3H mouse mammary tumor, even though the latter tumor had been caused by the milk agent.

Our findings in mice and hamsters, however, suggested that the polyoma virus that we had recovered did not have precisely the same effects as those reported for the virus that Stewart, Eddy, *et al.*, had recovered. Our virus did not seem to produce tumors so readily in Swiss mice as theirs, but it induced kidney sarcomas in hamsters much more quickly; indeed, about half of our hamsters injected on their first day of life would be dead in 12 days with huge, diffuse, bilateral kidney sarcomas that replaced most of the substance of their kndneys.(12,13) The great rapidity with which these tumors developed provided an unique opportunity for making a day-to-day study under the miscroscope of the sequence of changes that occur in the kidney in viral carcinogenesis, so such a study was undertaken.(14) This will now be reviewed.

OBSERVATIONS

In hamsters, injected on the first day of postnatal life, the first sign of a kidney lesion was seen with the light microscope on either the third or the fourth day. The cells in which the lesion appeared were the mesenchymal cells that were engaged in forming the stroma of the medulla. These cells are seen to best advantage in little triangular patches on the medullary side of each pair of arcuate vessels that happen to be cut in making the section. In these patches, the mesenchymal cells extended directly to the endothelium of the developing vein (which suggested that these cells would subsequently form such muscle and connective tissue as would constitute the media and adventitia of these veins), and out between the tubules of the medulla where they were forming the medullary stroma.

In some kidneys on the third day, and in most kidneys on the fourth day, the patches of mesenchyme described above were observed to be larger than those in the controls. On examination under the higher powers, many of the cells in these patches were seen to be undergoing necrosis. The most prominent change indicative of this was a margination of the chromatin of their nuclei and the presence of clumps of basophilic necrotic material in the cytoplasm. No inflammatory cell infiltration was observed at this time. Many cells of the same type as those manifesting degeneration and necrosis appeared healthy and some were seen in mitosis.

By the sixth day, the patches had enlarged still further and a low power inspection of a section of kidney showed them as light pyramidal areas disposed with their bases at the cortico-medullary junction. At higher mangifications many of the mesenchymal cells showed the same degenerative and necrotizing changes that were seen on the fourth day. In addition, many nuclei with marginated chromatin contained inclusion bodies; these were round to ovoid and occupied the central parts of nuclei which were otherwise empty except for the marginated chromatin on the inner surface of their nuclear membranes. However, despite the presence of many degenerating and necrotic cells, other cells of the same type appeared healthy and many mitotic figures were seen. No inflammatory cell infiltration was noted until a day or two later, even though many cells in the area were necrotic at this time.

After the sixth day, the proliferative response became the dominant one and fewer and fewer cells manifesting degeneration and necrosis were evident. Because of the continuing proliferation, the pyramidal-shape areas of mesenchyme (the

transformed patches) began to fuse with one another, and by around the 10th day, almost the whole medulla was occupied by a confluent mass of rapidly proliferating spindle cells. Nodules of cells of the same type were found at this time in the lungs of some of the animals; these were interpreted as metastases. Tissue from the frank tumors that were present by this time was transplanted to other hamsters and, although we were not working with inbred hamsters, the transplants in many instances grew and killed their hosts.

We concluded from our light miscroscope study of the sequence of changes, that the virus had induced two types of response, a necrotizing and a proliferative one, in the developing stromal cells of the hamster kidney. We concluded, furthermore, that the necrotizing response was a transient one which reached its peak around the sixth day and thereafter faded. The proliferative response, which began at the same time, continued, and this constituted the tumor. Hence the tumor had its origin, not in a single cell, or even in a few cells, but in thousands of cells scattered throughout the kidney, and from all these many points of origin the proliferating cells merged to form the huge masses of tumor cells visible to the naked eye by the tenth day.

ELECTRON MICROSCOPE STUDY

Our next procedure was to study, with the electron miscroscope, the sequence of events that occurred in the kidneys of hamsters inoculated at birth with the virus so as to determine whether or not virus production was associated primarily with the necrotizing response.(15) This was done and it was found that increasing numbers of virus particles could be seen in stromal cells from the third to the sixth or seventh day. After this, their numbers fell off very rapidly and none were seen in frank tumors. The electron microscope study, therefore, showed that the production of virus was associated with the necrotizing response which terminated at around the seventh day. The virus particles that were seen were typical of the polyoma virus. They appeared first in nuclei, and their multiplication was so great that nuclei were often seen to be composed almost entirely of virus particles; often these were arranged in crystalline-like arrays. Many large clusters of virus particles were also seen in the cytoplasm of cells; it was assumed that most of these originated from infected nuclei that had broken down and been phagocytosed by adjacent cells.

In order to verify the hypothesis suggested by the light and electron microscope studies, namely, that the production of virus was associated only with the necrotizing response, we decided to make a study whereby kidneys from hamsters inoculated with virus at birth, would be obtained at daily intervals and extracted, with the extracts being assayed for virus content by injecting them into other newborn hamsters.(16) When this experiment was done, it showed that the amount of tumor-inducing virus that could be recovered from the kidneys of hamsters injected on their first day of postnatal life was negligible until the third day. Over the next few days, the yield of virus increased rapidly, reaching a peak around the sixth day. The yield fell off slightly on the seventh day, and then fell to zero during the next two days. This experiment illustrated three points clearly. First, it showed that the production of virus in the hamster kidney was associated with the necrotizing response that had been shown to occur both with the light and electron miscroscope studies and which was of a transient nature. Secondly, it showed that production of virus was not associated with the proliferative response, for when this response alone was visible in the kidney, after the eighth day, the kidneys contained no virus that could be assayed by the method used. Thirdly, the experiment showed that the virus produced in the necrotizing response was the virus that induced tumors, for the way the amount of virus present in kidneys on the different days of the experiment was assayed, was by its ability to induce tumors when it was injected into other newborn hosts.

DISCUSSION

These three kinds of experiments by our group seem, therefore, to show clearly that the mesenchymal cells of the developing stroma of the kidney of the newborn hamster can react to the polyoma virus in two different ways. In one type of interaction, the virus multiplies within

the cell and destroys it, liberating virus. To this disease, the animal reacts by producing antibody to the virus. Recovery occurs from this disease much as it does in ordinary kinds of virus diseases. The second kind of interaction of cell and virus results in neoplasia and in this cell-virus interaction, the virus disappears as an infectious entity.

Dulbecco and his associates in California have shown that the two types of cell-virus interaction can also be demonstrated in tissue cultures.(17,18) Eddy and Stewart, *et al.*,(8) were the first to show that the polyoma virus would produce a necrotizing response in mouse embryo cells in tissue culture. Subsequently, Dulbecco and his associates demonstrated that the polyoma virus could induce a neoplastic transformation of hamster embryo cells that were growing in tissue cultures. Dulbecco and Vogt,(17) moreover, have now shown that hamster cells transformed by the virus into neoplastic cells in tissue cultures can be grown free of virus and hence that the presence of virus is not necessary for cells to continue their neoplastic growth.

It now seems clear, therefore, both from experiments in animals and experiments in tissue culture, that the polyoma virus can act somehow to change the genetic nature of somatic cells so that they become neoplastic, and that it can do this without remaining as such in the cells that it has transformed.

In recent years it has become possible to visualize possible ways by which a virus might induce a genetic change in cells. The essential component of all viruses is either deoxyribonucleic acid (DNA) or ribonucleic acid (RNA). It has become known that the genes in the chromosomes of cells are in effect parts of DNA molecules and that the basis for different genetic properties lies in the sequences in which nucleotides are arranged along DNA molecules. It is known, moreover, that RNA controls most of the protein synthesis that occurs in cells, and that cells contain all the enzymes necessary to synthesize such further DNA or RNA in cells as is required. It becomes possible to understand, therefore, how viral DNA or RNA, on gaining entrance to a cell, could parasitize the metabolic machinery of the cell for its further synthesis, and hence multiply preferentially and destroy the cell. It is known also that viral DNA can carry genetic information. It has been shown in connection with certain bacterial viruses — those that are involved in the lysogenic systems — that they can engage in two types of interaction with the bacterial cells that they infect. In one type of interaction these DNA viruses, on infecting bacterial cells, multiply within them and destroy them with the liberation of virus. In the other type of interaction, they infect bacterial cells without their multiplying within the cell, but instead with their DNA becoming integrated with the DNA of the bacterial cell so that it becomes part of the genetic apparatus of the bacterial cell, endowing the cell with additional hereditable properties. It is obvious that the two types of interaction between the polyoma virus, which is also a DNA virus, and mammalian cells, demonstrate some similarities to the two types of interaction observed in lysogenic systems of bacteria, and which have been much studied.

All this leads to a very different kind of concept about how viruses could cause tumors than the one held in years past. The older view, held about the few viruses that had been shown many years ago to cause tumors in animals, was that they acted as persisting injurious agents in cells, and that the tumor growth that they caused was actually the result of the cells responding, by proliferation, to the presence of a persisting injurious agent, which was the virus. This older concept of how tumor viruses acted was an important reason for pathologists giving scant consideration to the possibility of viruses being responsible for cancer in man, because cancer

in man gave little indication of being a proliferation occurring in response to a persisting injurious agent. Now, because of the discovery of the polyoma virus, and the work that it has inspired, it is clear that a malignant neoplasm can be a second effect of a virus infection that causes a usual type of necrotizing virus disease, and that the malignant neoplasm so produced can be free from virus and otherwise behave in the same fashion as the spontaneous neoplasms in man with which we are familiar. Hence the polyoma story may be of considerable significance in the search for viruses in man that may possibly cause tumors by the same mechanism.

BIBLIOGRAPHY

1. Gross, L.: Pathogenic properties, and "vertical" transmission of the mouse leukemia agent. Proc. Soc. exper. Biol. Med. 78:342-348 (1951).

2. Gross, L.: Spontaneous leukemia developing in C3H mice following inoculation, in infancy, with AK-leukemic extracts, or AK-embryos. Proc. Soc. exper. Biol. Med. 76:27-32 (1951).

3. Gross, L.: A filterable agent, recovered from AK leukemic extracts, causing salivary gland carcinomas in C3H mice. Proc. Soc. exper. Biol. Med. 83:414-421 (1953).

4. Stewart, S. E.: Leukemia in mice produced by a filterable agent present in AKR leukemic tissues, with notes on a sarcoma produced by the same agent. Anat. Rec. 117:532 (1953).

5. Stewart, S. E.: Neoplasms in mice inoculated with cell-free extracts or filtrates of leukemic mouse tissues. I Neoplasms of the parotid and adrenal glands. J. Nat. Cancer Inst. 15:1391-1415 (1955).

6. Stewart, S. E.; Eddy, B. E.; Gochenour, A. M.; Borgese, N. G. and Grubbs, G. E.: The induction of neoplasms with a substance released from mouse tumors by tissue culture. Virology 3:380-400 (1957).

7. Stewart, S. E.; Eddy, B. E. and Borgese, N.: Neoplasms in mice inoculated with a tumor agent carried in tissue culture. J. Nat. Cancer Inst. 20:1223-1243 (1958).

8. Eddy, B. E.; Stewart, S. E. and Berkeley, W.: Cytopathogenicity in tissue cultures by tumor virus from mice. Proc. Soc. exper. Biol. Med. 98:848-851 (1958).

9. Eddy, B. E.; Stewart, S. E.; Stanton, M. F. and Marcotte, J. M.: Induction of tumors in rats by tissue culture preparations of SE polyoma virus. J. Nat. Cancer Inst. 22:161-171 (1959).

10. Eddy, B. E.; Stewart, S. E.; Young, R. and Mider, G. B.: Neoplasms in hamsters induced by mouse tumor agent passed in tissue culture. J. Nat. Cancer Inst. 20:747-761 (1958).

11. Gross, L.: Viral etiology of "spontaneous" mouse leukemia. A review. Cancer Res. 18:371-381 (1958).

12. McCulloch, E. A.; Howatson, A. F.; Siminovitch, L.; Axelrad, A. A. and Ham, A. W.: A cytopathogenic agent from a mammary tumor in a C3H mouse that produces tumors in Swiss mice and hamsters. Nature. 183:1535-1536 (1959).

13. Axelrad, A. A.; McCulloch, E. A.; Howatson, A. F.; Ham, A. W. and Siminovitch, L.: Induction of tumors in Syrian hamsters by a cytopathogenic virus derived from a C3H mouse mammary tumor. J. Nat. Cancer Inst. 24:1095-1111 (1960).

14. Ham, A. W.; McCulloch, E. A.; Axelrad, A. A.; Siminovitch, L. and Howatson, A. F.: The histopathological sequence in viral carcinogenesis in the hamster kidney. J. Nat. Cancer Inst. 24:1113-1129 (1960).

15. Howatson, A. F.; McCulloch, E. A.; Almeida, J. D.; Siminovitch, L.; Axelrad, A. A. and Ham, A. W.: Studies in vitro, in vivo and by electron microscope of a virus recovered from a C3H mouse mammary tumor: relationship to polyoma virus. J. Nat. Cancer Inst. 24:1131-1151 (1960).

16. McCulloch, E. A.; Siminovitch, L.; Ham, A. W.; Axelrad, A. A. and Howatson, A. F.: Carcinogenesis in vivo by polyoma virus. Proc. Fourth Canadian Cancer Conference (in press) (1961).

17. Dulbecco, R. and Vogt, M.: Significance of continued virus production in tissue cultures rendered neoplastic by polyoma virus. Proc. Nat. Acad. Sci. (in press).

18. Vogt, M. and Dulbecco, R.: Virus-cell interaction with a tumor-producing virus. Proc. Nat. Acad. Sci. 46:365-370 (1960).

CLINICAL LABORATORY SOLICITATION

The Arizona Medical Association frowns upon the practice of laboratory work being done by direct or mail solicitation, especially by those laboratories that are not headed by qualified clinical pathologists.

Professional Committee and The Board of Directors (February 12, 1961).

Diabetes Among the Pima Indians of Arizona

John H. Parks, M.D.
Eleanor Waskow, M.D.

The Pima Tribe of American Indians in Arizona presents a natural group for the critical study of diabetes as far as certain predisposing factors are concerned. This paper deals with factors involved in establishing a working public health program during the years 1954-1955. We compare diabetes as it then existed among the Pima Indians with diabetes of the white population of the United States as recorded by Joslin(1). We then discuss genetic factors, body build, and diet as these might relate to the high incidence of diabetes in the Pima tribe.

A. *The Pima Indians*

The Pima tribe is an inbred agricultural group of American Indians who live on government land divided into four separate Indian reservations: the Gila River, the Salt River, the Maricopa, and the Fort McDowell. These four reservations are located to the east and south of Phoenix, Arizona. The Pima Indians comprise 90% of the total population of 7,650 on these reservations and the remaining 10% consists of Indians from other tribes. In the majority of Pima families, income is derived from farming, stock raising, leasing of farm land to white farmers, and agricultural wage labor. The average annual family income is $1,800 on the Gila River Reservation and $2,100 on the Salt River Reservation, the two largest of the four reservations. The educational level is low, few individuals having had the equivalent of a high school education.

The average Pima is bilingual, but feels more comfortable speaking his own tongue rather than English.

Obesity is considered a normal configuration for an adult. The traditional diet consists of beans, meat, tortillas, potatoes, and squash which is being supplemented today by refined foods consisting largely of starches, lard and sugar.

B. *Government Medicine*

The federal government has assumed responsibility for the medical care of the Pima tribe and, through the Department of Interior's Bureau of Indian Affairs, ran a continuous health program for 50 years. In July 1955, the medical program was completely transferred from the Bureau of Indian Affairs to the United States Public Health Service. At the time of this study in 1954-1955, the government operated a 42-bed hospital located in Sacaton, Arizona, the largest town in the Gila River Indian Reservation. Two doctors lived in Sacaton, worked in the hospital, and carried on field clinics with the help of two public health nurses. The more seriously ill patients and patients with tuberculosis were referred to the Public Health Service's Phoenix Medical Center, 40 miles away, where medical specialists were available.

Among the diseases of importance for the Pima Indians are tuberculosis, infant diarrhea, gall bladder disease, alcoholism, and diabetes

mellitus.

Difficulties were encountered as the study and treatment of diabetes in this special group was begun. Among these were differences in culture, language and diet, along with their acceptance of obesity and ignorance of modern medical concepts. For these reasons, it was difficult to explain the concept of diabetes and its regulation to the patients, and it was difficult for them to follow a diet and eat less of their traditional sugars and starches. The low educational level intensified the above problems. Poverty was also a marked limiting factor, as many felt unable to afford to keep themselves stocked with insulin. The fact that few Pimans owned their own automobiles limited visits to the clinic for treatment and education.

C. *Techniques Used to Organize and Develop Community Interest in the Diagnosis and Treatment of Diabetes*

Late in 1954, we realized that an educational program must be carried out first in order to motivate those with diabetes to take enough interest in their disease to come for medical examination. In initiating such a program, use was made of the Pima Health and Welfare Committee, a group composed solely of Indians. All Health Committeemen were given instruction in diabetes by the doctor at Sacaton. Each committeeman carried this information back to his respective community and organized a series of diabetic classes to be carried out in his community. Each committeeman was given a list of known diabetics in his area as recorded in the Pima Indian Hospital records. The committeeman paid an individual call on each diabetic, stressing the importance of learning about diabetes and inviting him to the Community Diabetic Class.

A series of four classes was held in each community by the nutritionist, public health nurse, the doctor, and the community's health committeeman. Topics covered were as follows: Diabetes in the Pima Tribe, Diabetic Diet, Urine Testing, Insulin Administration, and Hygiene. Emphasis was placed on local example by citing current or past cases at the Pima Indian Hospital. This emphasis was used to convince the class that diabetes mellitus is a potentially serious disease with serious complications.

Two main factors were crucial in the success of the community. First, the doctor in charge of the program had to be enthusiastic, genuinely interested and determined to succeed. Second, the doctor had to be known to all the people and this was possible because of his work at the Pima Indian Hospital. He was able to follow diabetic cases from the hospital wards and clinics into the community. This continuity of service, therapeutic as well as preventive and educational, eliminated much of the red tape of referral. The patient, having learned to trust the doctor in the hospital, could trust the same doctor in the classroom.

With the establishment of regular Diabetic Classes locally in several communities, community interest in diabetes developed markedly. Special appointments to see the doctor at the Pima Indian Hospital were given at each class to every diabetic who wished to have a careful history, physical examination, and laboratory examination. Of 283 known diabetics, 90 were sufficiently motivated to seek this additional study, and were seen individually between December 1954 and April 1955.

D. *Sources of Data*

1. Complete out-patient file at the Pima Indian Hospital Clinic and the Salt River Clinic.

2. Individual Evaluation.

a. History — The following historical information was obtained from each patient: Name, sex, date of birth, age, degree of Pima Indian blood, mailing address, age at onset of diabetes, dietary history, insulin history, hereditary history with names (including diabetic history in grandparents, parents, aunts, uncles, children, siblings and cousins), past medical history (including history of gall bladder disease, diabetic acidosis, gangrene, tuberculosis, visual difficulties, frequency of infections and cardio-vascular disease): Obstetrical history of female patients (including number of children, neonatal deaths, pre-eclampsia, congenital abnormalities of the newborn and number of children with weight greater than 9 pounds at birth). The past medical history was checked and supplemented wherever possible by information taken from

out-patient and in-patient records of the Pima Indian Hospital.

b. Physical Examination — The following information was tabulated on each individual: Weight, height, blood pressure, visual acuity, eye examination, heart examination, and sensory examination of the extremities.

c. Laboratory Examination — The urine of each individual was examined for albumin, sugar, acetone, and white blood cells. A blood sugar was drawn routinely on each case.

3. Deceased diabetic patient's hospital in-patient records at the Pima Indian Hospital. All available charts from deceased diabetics were reviewed and the following information tabulated: Age at death, cause of death, and year of death.

E. *Tabulation and Comparison of the Data with Joslin*

1. *Incidence*

The incidence of diabetics among the Pima Indians is extremely high. The Pima population is estimated at 6,975 and there were 283 cases of known diabetes. This information was gleaned from urinalyses in all cases and blood sugars in about one-half of the cases during clinic visits recorded in a five-year period.

The computed incidence is not complete because most Pima Indians will not visit a clinic unless seriously ill. Incidence is higher among women as they come to the clinic for themselves or their children more often than do men, and their urines are checked incidentally. The rate computed on actual cases known is 4.1% as compared with the 1952 figures of 1.5% given by Joslin (page 20) for the entire United States.

Though a complete study of the entire population could not be undertaken at the time, a sample group indicated a high incidence. The study might be compared with the Oxford, Massachusetts Survey recorded by Joslin (page 43). Oxford has a population of 5,000 and some 3,500 cases were studied. Here, an incidence of 1.4% was found, as compared with the 4.1% among the Pima Indians.

Table 1
BLOOD SUGAR DETERMINATIONS — 90 PIMA INDIAN DIABETICS

Blood Glucose Mg. %	Fasting No. of Cases	3-Hour Post Prandial
Below 139	4	1
140 - 179	17	6
180 - 219	12	10
220 - 259	8	8
260 - 299	8	4
300 - 339	2	2
340 and above	2	6

2. *Blood Sugar Determinations*

Blood glucose measurements were obtained on each of the 90 cases. If possible, a fasting blood sugar was obtained. If this was not possible, a 3-hour post prandial blood sugar was obtained. Approximately 68% of the blood sugar measurements fell between 140 mg % and 259 mg %. It has been a common belief among medical workers that Indian patients can have very high blood sugars without gross signs or symptoms. Eight of our cases had blood sugar measurements of 340 mg % or above. The highest measurement was 432 mg %. Three out of 8 of these cases were asymptomatic except for polyuria and polydipsia. The other 5 showed significant peripheral neuropathy, lassitude, weakness, fatigue and weight loss, as well as polyuria and polydipsia.

Table 2
AGE AT ONSET OF DIABETES — 90 PIMA INDIAN DIABETICS

Age Groups	No. of Cases M	F
All Ages	28	62
10 - 14	0	1
15 - 19	0	3
20 - 24	0	2
25 - 29	3	3
30 - 34	1	7
35 - 39	1	6
40 - 44	3	13
45 - 49	3	7
50 - 54	5	10
55 - 59	8	3
60 - 64	2	3
65 - 69	0	3
70 - 74	0	0
75 - 80	1	0
Unknown	1	1

3. *Age at Onset*

Table 2 presents the age at onset of diabetes in the 90 cases more closely studied. There was only one under 15 years, and one over 70 years of age, which compared with figures given by Joslin (page 34). The peak five-year age group in Joslin's study was 50-54. Among the Pimans there were 15 cases in the 50-54 age group, and

16 cases in the 40-44 age group representing the two peaks in our study. Exact age of onset of diabetes in the males of our study was difficult to determine. Sixty-seven of our 90 cases occurred between the ages of 30 and 60.

Table 3
DURATION OF DIABETES — 90 PIMAN INDIAN DIABETICS

Years	Male	Female
0 - 5	19	48
6 - 10	6	12
11 - 15	2	11
16 and above	1	1

4. *Duration and Insulin Administration*

The Piman visits the clinic infrequently and often does not regard time in the same manner as does the white man, so that his verbal report of the duration is seldom accurate. A Piman is diagnosed as a diabetic incidentally when at the clinic for another condition. Of the 90 cases studied, 67 or 74% fell into the 1 to 5 years duration period. In the 1-year group, there were 8 males and 11 females. Medical care has been more thorough in the last 5 years, so it is conceivable that many of these so-called "recent" cases were, in reality, diabetics much longer than the recorded 1 to 5 years.

Of the 90 cases studied, 46 were taking insulin. It is uncertain whether those taking insulin at the time of the study will continue to do so, as they frequently stop treatment because they neglect to replenish their insulin, or they feel well and discontinue taking the injections. The Pima women were more reliable in taking the insulin than were the men.

5. *Sex*

Of the original 283 diabetics visiting the government clinics during the survey period, 170 or 60% were females. Of the 90 patients more thoroughly studied, 28 were males and 62 were females, or 31% and 68% respectively. This preponderance of female diabetics is similar to that reported by Joslin (page 39). In our study, females predominated in all age groups except the 55-59 group and the 75-79 group.

6. *Obstetrical History*

Histories taken on the married women revealed the usual obstetrical complications of diabetes — sterility, neonatal deaths, large babies, pre-eclampsia, and death from toxemia. Other factors besides diabetes which may have led to these complications were not studied.

Table 4
OBSTETRICAL HISTORY — 62 FEMALE PIMA INDIAN DIABETICS

A. Married women with no children	17
B. Married women with children (average 5.2 children)	44
1. Women with infants over 9 pounds	11
2. Women with neonatal deaths	10
3. Women with pre-eclampsia	7
4. Women with toxemia and death	1
C. Unmarried	1
	62

Table 5
FAMILY HISTORY — 90 PIMAN INDIAN DIABETICS

	No.	Percentage
1. Positive family history (either 2 or 3)	65	72
2. Grandparents, parents, uncles, aunts, children	40	44
3. Brothers, sisters, cousins	48	53
4. Family history (including 2 and 3)	23	26

7. *Family History*

The 90 cases of diabetes were studied from a standpoint of heredity and this analysis strongly indicates the important role of heredity. 44% of the patients had at least one grandparent, parent, uncle, aunt, or child with diabetes. 53% had at least one brother, sister, or cousin with diabetes. 26% had at least one relative with diabetes in each of the above two groups. Joslin (page 55-56) presents percentages of 15%, 8.6%, and 3.3% respectively for these three groups.

The total incidence of families in our sample presenting evidence of inherited diabetes was 72%. Joslin (page 56) reports a total incidence of 49% in patients with Jewish parentage. In our sample, we accepted a positive family history of diabetes if the relative in question had been given a diagnosis of diabetes mellitus by a medical doctor. There may be a large error of omission when questioning as to parents and grandparents with a history of diabetes, as lack of medical enlightenment in earlier generations may have precluded a positive diagnosis of the disease.

8. *Obesity*

Kraus(2) studied body-build types among Pima children, employing the Wetzel grid, and

compared them with the white boys and other Indians. His study revealed that at the age of six, none of the Pima boys were in the thin channel, relatively few in the medium channel, and many occupied the obese channel. As they advance in age, this trend becomes more pronounced. Kraus concluded that obesity is characteristic of the body build of the Pima boys, already established at the age of six if not sooner. The obesity continues, and at maturity, adult males are characterized by heavy body build. He could offer no enlightenment as to whether this characteristic is due to a dietary condition or a hereditary constitutional trait. The study on girls showed almost the same phenomenon.

Table 6

WEIGHTS — 90 PIMA INDIAN DIABETICS

% Weight Above or Below Average for Age	overweight Females		Males	
Below 5%	1.6		3.6	
Average	11.3		7.2	
5-10% above	16.1		42.8	
20-40% above	37.1	81.1%	32.1	89.2%
40% and greater	33.9		14.3	

Joslin (page 66) reports that in a thousand diabetics, the maximum weights of only 8% were below the standard weight zone, whereas 15% were in the normal weight zone and 77% were above it.

88.1% of our cases fell into the overweight group. We had no normal age-height-weight scale for the Pima Indians as a group, so we used the Metropolitan Life Insurance Company's scale reproduced by Joslin (page 745) as a normal scale for comparison with our diabetics. In light of the studies of Kraus, it could well be that obesity is a natural condition of the average Piman. If this is true, and we had compared the weights of our diabetics with a normal age-height-weight scale constructed solely for the Pima Indians, a much lower percentage of our cases would have been recorded as overweight.

Joslin (pages 67-68) reports that in a study of 4,596 cases, 78.5% of the males and 83.3% of the females were overweight at least +5%. Of these, 16.5% of the males and 25.8% of the females were in the 40% or more overweight group. In adult Jewish males, 86.8% were overweight as compared with 89.2% of the adult Piman males. In adult Jewish families, 94.3% were overweight as compared with 87.1% of adult Piman females. Of the Jewish males, 16.2% were over 40% overweight as compared with 14.3% of Piman males. Of Jewish females, 33.5% were over 40% overweight as compared with 33.9% of Piman males.

Table 7

COMPLICATIONS — 90 PIMAN INDIAN DIABETICS

A. By Physical Examination	
Hypertension 150/90 or higher	20
Cataracts	16
Albuminuria 1+ or greater	16
Heart disease	8
Chronic pyelonephritis	5
Peripheral neuropathy	
Transitory (before insulin)	35
Permanent (after insulin)	3
B. By History	
Cholecystitis and cholelithiasis	24
Foot infection, severe	11
Tuberculosis	10
Coma	3
Gangrene with amputation	1

9. *Complications*

A study of this group of diabetics revealed the complications indicated in Table 7. The most common complication reported is a transitory peripheral neuropathy, and 3 cases showed permanent loss of sensation in the lower extremities. Cholecystitis with cholelithiasis proved to be an important disease as it is also in the non-diabetic Piman. Diseases of the heart were quite frequent, with most of these being arteriosclerotic or hypertensive in type. A large percentage showed a hypertension of at least 150/90. Tuberculosis ranks high, as it does in the non-diabetic Piman population.

Table 8

CAUSE OF DEATH — 40 CASES DECEASED PIMA INDIAN DIABETICS

Under 50 Years of Age — 18 Cases	
Tuberculosis	6
Coma	2
Kimmelsteil-Wilson syndrome	2
Gangrene, leg	2
Toxemia of pregnancy	1
Hypertensive heart disease	1
DDT poisoning	1
Chronic pyelonephritis	1
Rheumatic heart disease	1
Carcinoma	1
Over 50 Years of Age — 22 Cases	
Celebral or cardio-vascular disease	6
Chronic pyelonephritis	3
Carcinoma	2
Infections (GI Tract)	4
Miscellaneous	4
Unknown	3

10. *Cause of Death*

Forty hospital records were reviewed of patients with diabetes who died between 1949 and 1955 and were hospitalized at the Piman Indian Hospital. The ages at death varied from 17 to 83 years. Those who died on the reservation proper, or in other hospitals, are not included in this survey.

Of the 40 deaths, two were attributed to diabetic coma. Both of these were under 40 years of age. Two died with the probable diagnosis of Kimmelsteil-Wilson syndrome (also 40 years of age and under). Seven died of tuberculosis, six of whom were under 50 years of age. Four died of chronic pyelonephritis. Seven died of various types of cerebral or cardiovascular diseases. The remaining deaths were due to carcinoma, gangrene, rheumatic heart disease, and cholecystitis.

Joslin (page 187) reports causes of death of 656 diabetic patients between the years of 1950 and 1952. Of this group, only 1.1% died of diabetic coma; 75.9% died of cardio-renal-vascular disease; 38% died of infections; and less than 10% died of other diseases.

F. *Discussion*

It is of utmost importance in working toward a satisfactory Diabetes Program with a small minority group such as the Pimas with serious cultural, educational, and economic deficiencies, that the health workers be patient, tolerant, and considerate in their understanding of the differences between themselves and the minority group. An unkind criticism, an intolerant remark, or a sign of prejudice is immediately registered by the group members, and any program initiated from then on can be defeated by passive resistance. Understanding and communication must be allowed to grow through patience, willingness to wait for results, and sympathy on the part of the health personnel. The key to success in our program was a good working relationship between the diabetic patients and the doctor in the Pima Indian Hospital or clinic. A number of these good doctor-patient relationships were carried out into the community where successful diabetes education was instituted, with the nucleus of interested patients being those with whom good contact had already been established at the hospital. Without this type of relationship paving the way, an educational program among the Pima Indians would have been much less successful.

Except for the high incidence of diabetes in our study, diabetes among the Piman Indian population appears to have many similarities with diabetes as found among the general United States white population as recorded by Joslin. The age of onset is similar with one of the peak five-year groups in the Piman study and the peak five-year group in the Joslin study being age 50-54. There is a higher incidence of diabetes in females as compared with males in both groups. A history of diabetes in the family is more striking in the Piman group as compared with the Joslin group, although Joslin's figures for his Jewish group approach the figures for the Piman group. Obesity is an important factor with Piman diabetics, as it is with Joslin's group of diabetics. The obesity of the Piman seems to be more akin to the obesity of the Jewish group of patients Joslin has studied. Disease complications are similar in both groups, with the exception that tuberculosis seems more prevalent among the Piman group and ranks high as a cause of death in young Piman diabetics.

The findings that stand out as particularly significant are the high incidence of diabetes in the Piman group, the high percentage of relatives with diabetes, and the high carbohydrate diet of the average Piman. To be examined alongside of our findings are findings by Kraus, who, in his study of Arizona Indians, using the Wetzel grid, determined that the bodily configuration of all Pima Indians, that of the obese endomorph, was easily detected by the age of six. That obesity and endomorphy are common to all Pimans is factually acknowledged by all Arizonans who know this Indian group. Another finding pertinent to our discussion is that by Dr. Bertram L. Hanna.(3) Dr. Hanna studied Piman blood types and found inbreeding coefficients for various local groups of Pimans which indicate that in some areas the average genetic relationship between marriage partners may even be closer than first cousin. He also found that the Pimans do not all intermarry exclusively within their own tribe. 4% of marriages at Gila Crossing on the Gila River Reser-

vation, 8% of marriages on the eastern end of the Gila River Reservation, and 26% of marriages on the Salt River Reservation, are mixed marriages between a Pima Indian and a member of another Indian tribe. Still, his findings point to a considerable degree of inbreeding among the Pimans.

Five factors, therefore, stand out in the problem of Pima diabetes: High incidence, marked familial history, high carbohydrate diet, body type of the obese endomorph, and inbreeding.

Kraus(4) feels that a tentative explanation for the high incidence of diabetes among the Pima population rests on three basic factors: (1) genetic drift to a small extent, (2) pleiotropy in which a highly adaptive major trait that we do not yet recognize is favorably selected, (3) a strong genetic tendency toward obesity which, in turn, provides a fertile environment for diabetes.

Is the high incidence of diabetes due to a higher "penetrance" of the diabetes-producing gene in homozygotes, or to a greater frequency of this gene, or to inbreeding? What are the effects of body type and diet upon "penetrance"?

It seems probable that many of these questions could be answered by further research on the Pimans. Further study of family pedigrees could help us in determining "penetrance." The Pima Indians represent a group where an attempt could be made to study the carriers of diabetes, and perhaps a test could be devised to detect such a carrier. Persons genetically susceptible to diabetes, and experiments could be contrived to control obesity in diabetic families to see whether or not the onset of diabetes can be delayed. The inbred Pima tribe makes it possible to trace a single gene back through all branches of the family – something that is impossible in a larger, more diffuse population.

On the Gila River and Salt River Reservations, 10% of the Indian population are not of pure Pima stock. Among these 765 non-Pimas we identified the following Indian diabetics: 23 Papagos, 18 Piman-Papagos, 20 Maricopans, 2 Piman-Maricopans, 4 Mojave-Apaches, and 3 Yavapais. The incidence of diabetes among the non-Pimans is 9.0%. These different tribes of American Indians, if surveyed separately would undoubtedly show a very high incidence of diabetes. Most of these tribes are agricultural in origin and one wonders about the deleterious effects of our refined modern foods on tribes originally sustained by primitive agriculture. On the other hand, Kraus(5) found that diabetes is rare among the Apache Indians, which were formerly predatory and hunting tribes.

The question of deleterious effects of modern foods on the health of the agricultural Indian tribes is one that is frequently raised. Lumboltz visited the Papago tribe in 1906 and felt strongly that the new consumption of lard, starches, and sugars was adversely affecting the health and well-being of tribal members. Has the modern diet of the desert Indian tribes of starches, sugars, beans, tortillas and lard, increased the penetrance of the diabetes-producing gene, causing a high incidence of diabetes among these tribes?

Nutritionists can find an abundant source of research material concerning diabetes by focusing their interests on such Indian tribes with their marked incidence of diabetes.

G. *Summary*

1. The special cultural problems of the Pima tribe are presented as they pertain to the broader public health aspects of a diabetes program. The importance of sympathetic, patient communication between health workers and tribal members is stressed.

2. The incidence of diabetes among the Pima Indians is 4.1% higher in comparison to other studies on large groups. The incidence of diabetes among non-Pima Indians is 9.0%. The conclusions below apply only to diabetic Pima Indians.

3. The age at onset of diabetes is similar to age at onset of whites – about three-fourths of the cases occurring between ages of 30 and 60.

4. The duration of diabetes, as determined by history-taking only, is considerably less than that among whites, 74% of the cases reported having the diagnosis of diabetes five years or less.

5. Females treated for diabetes represent 60% of the total cases. Males represent 40%. These diabetic females report the usual obstetrical complications of diabetes such as sterility, neonatal deaths, large babies, pre-eclampsia, and one maternal death from toxemia.

6. Seventy-two per cent have a positive family history of diabetes as determined by history-taking only.

7. Complications of diabetes include the following: Peripheral neuropathy, hypertension, cataracts, cardio-renal-vascular disease, chronic pyelonephritis, tuberculosis, cholecystitis with cholelithiasis, gangrene with amputation, and coma.

8. Causes of death include the following: Diabetic coma, Kimmelsteil-Wilson's syndrome, tuberculosis, chronic pyelonephritis, and cardio-renal-vascular disease.

9. The diabetic problem among the Pimans and possibly other inbred Indian tribes with a high incidence of diabetes can provide a fertile area for future diabetic research. Factors such as diet, body build, family pedigree, incidence, and degree of inbreeding can be studied in more detail with the hope that new knowledge can be uncovered concerning "penetrance" of the diabetes producing gene and the "carrier state."

BIBLIOGRAPHY

1. Joslin, Elliot P., Root, Howard F., White Priscella, Marble, Alexander: The Treatment of Diabetes Mellitus, 1952.
2. Kraus, Bertram S.: Indian Health in Arizona, 8:117-129, 1954.
3. Hanna, Bertram L.: Personal communication.
4. Kraus, Bertram S.: Personal Communication.
5. Kraus, Bertram S.: Indian Health in Arizona, 6:94, 1954.

MEDICAL JOURNAL

Many protographs have been received for the Illustrated Membership Roster to be published in *Arizona Medicine*. If you have not forwarded yours, would you please do so?

Mail to: Editorial Office, 720 N. Country Club Road, Tucson, Arizona.

The Newer Progestational Agents In Clinical Practice

Robert B. Greenblatt, M.D.

S. N. Dutta, M.B.B.S.

The advent of new potent progestational agents has awakened an interest in their clinical use.

With a better understanding of the physiology of progesterone, these potent oral and long-acting parenteral progestational agents fill a much felt need in our therapeutic armamentarium.

The management of some of the more complex gynecologic and obstetrical problems, particularly functional uterine bleeding, habitual abortion, and endometriosis, has been facilitated greatly.

Progesterone, one of the hormones produced by the ovary (corpus luteum) as well as by the placenta, has been available for clinical use in pure crystalline form for over two decades. It is one of the hormonal agents that has been considerably abused, misused, and misunderstood, and there is much controversy as to its clinical usefulness. Certain clinicians in high places feel that there are no indications for the use of progesterone in clinical practice, while others believe that progesterone and its analogues deserve an important place in our therapeutic armamentarium. What are the reasons for this impasse? With the advent of long-acting progestational agents and more potent oral progesterone-like substances, much of the earlier criticisms as to clinical ineffectiveness now may be dismissed.

What is known about progesterone? Progesterone is of importance to the body economy, for it is evidently necessary for reproduction, for true menstruation, and for the maintenance of conception. Although progesterone is effective only in an "estrogenic medium," it is nevertheless anti-estrogenic, and anti-proliferative. Progesterone is a "deciduous" hormone – it promotes a decidua-like reaction of the endometrial stroma, desquamation of the vaginal epithelium, and shedding of the endometrium when its hormonal support is withdrawn. Progesterone is a weak steroid and is rapidly metabolized. After an injection of 100 mg. of progesterone, its urinary metabolite, pregnanediol, can be recovered only during the next 48 hours. Incidently, only 10 to 15% of the metabolite is found in the urine. During the last month of pregnancy, as much as 100 mg. of pregnandiol may be recovered in a

Dr. Greenblatt is from the Department of Endocrinology, Medical College of Georgia, Augusta, Georgia.

Presented at the 7th Annual Meeting, Arizona Chapter, American Academy of General Practice, October 15, 1959, Scottsdale, Arizona.

Dr. Dutta is a visiting Research Fellow in Endocrinology from the R. G. Kar Medical College, Calcutta, India.

ACKNOWLEDGMENTS

Grateful acknowledgment is made to the following for the generous supplies of medications used in this study.

Dr. E. C. Reifenstein Jr. of E. R. Squibb and Sons, New York, New York – 17-alpha-hydroxy progesterone caproate (Delalutin) and 17-alpha-hydroxy-progesterone caproate with estradiol valerate (Deluteval).

Dr. J. E. Gajewski of Parke-Davis, and Company, Detroit Michigan – 19-nor-17-alpha-ethinyl-testosterone, norethindrone (Norlutin).

Dr. J. W. Crosson of G. D. Searle and Company, Chicago, Illinois – 17-alpha-ethinyl-17-hydroxy-5(10)-estren-3-one, norethynodrel (Enovid).

24-hour urine specimen. If that amount represents about 10% of the total metabolic pool, it would seem to indicate that the pregnant female metabolizes almost 1,000 mg. of progesterone per day during the 9th month of pregnancy. There must be a definite need for such large quantities, for it is known that the human body is efficient and not wasteful where hormonal utilization is concerned.

Our early difficulties with the use of progesterone arose from the fact that it was not generally appreciated how weak a steroid it was, nor how rapidly it was metabolized. Dosages were generally too small and should have been administered at least twice a day for effectiveness. Oral progesterone at first was thought to be totally inactive, but finally this notion was dispelled when it was shown that 100 mg., taken orally, was as active as 6 or 7 mg. of progesterone parenterally(1). Since an effective dosage for parenteral use was 50-100 mg., it was found that intramuscular injections in this dosage range were not only expensive, but also proved more painful than injections of other steroidal substances. The administration of progesterone had its serious limitations, and it fell into disrepute.

The first oral progestational substance made available clinically was ethisterone (17-alpha-ethinyl-testosterone). This compound has about one-fifth the activity of parenteral progesterone and milligram for milligram is about three or four times as efficacious as oral progesterone(2). This agent was found effective in the induction of menses in amenorrheics, was occasionally useful in the treatment of dysmenorrhea, but it was a poor agent in the management of menometrorrhagia and threatened or habitual abortion. The first important breakthrough in effective and efficient progestational therapy came about with the introduction of 17-alpha-hydroxy-progesterone caproate. At last there became available a progestational agent which could be administered in large dosage, was long-acting (10 day effect) obviating the need for multiple doses, and was not painful on intramuscular injection. Furthermore, 17-alpha-hydroxyprogesterone caproate, when administered with a long-acting estrogen, behaved very much like the normal corpus luteum. The normal corpus luteum is functional or active for about 10 days, i.e., from a time soon after ovulation to about 2 or 3 days before the onset of menstruation.

When a single injection of 50 to 100 mg. of progesterone was administered to an amenorrheic female with adequate endogenous estrogen, a menstrual flow (withdrawal menstrual period) occurred in about 48 hours after the injection. When 125 to 250 mg. of 17-alpha-hydroxyprogesterone caproate was administered to such an individual, a menstrual flow followed in about 10 days (range 7-14 days) after the injection. This new agent was found particularly effective in amenorrhea, functional uterine bleeding, in premenstrual tension, mazoplasia, in some cases of dysmenorrhea, and in the induction of pseudopregnancy (Fig. 1) for the treatment of endometriosis. It proved a valuable agent in the management of habitual abortion.

Unusual case history:

Case 1 (G. A. S.) is that of a female aged 28 years. She gave a history of ten consecutive abortions. She was treated by various physicians with different regimens of therapy that ranged from complete bed rest to stilbestrol, vitamins, progesterone parenterally, and ethisterone orally. The abortions re-occurred between the 3rd and

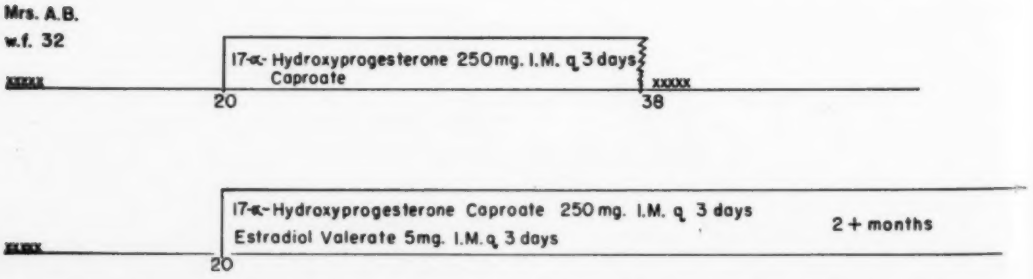
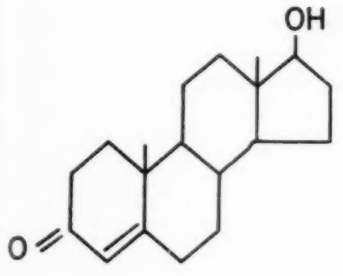


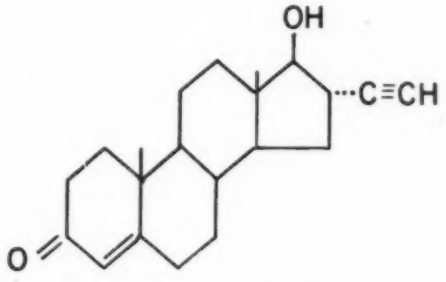
Figure 1: Delay of menstruation for several months is possible when an estrogen is employed with 17-hydroxyprogesterone caproate.

5½ months. In 1956, she consulted the senior author and after complete examination, such causes of abortion as a bicornuate uterus, septate uterus, submucous fibromyomata or incompetent cervical os were ruled out. Excessive fragility of her capillaries was not found. The patient was well nourished and on physical examination she was found normal in every way. She was given Delalutin, 250 mg. at 4 to 7 day intervals from the 6th week of pregnancy until she went into spontaneous labor during the 32nd week. A 2½ pound male child was born, and after several week's management for prematurity, left the hospital in excellent health and has remained well to this day. Ten months after this event, the patient conceived again and she felt that she could carry successfully without medication. She aborted during the 8th week of gestation.

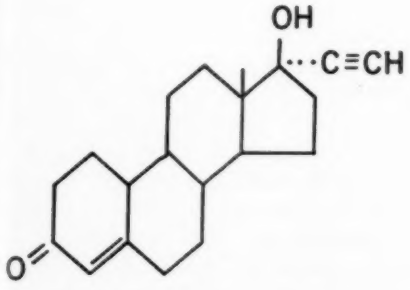
The introduction of 17-alpha-hydroxyprogesterone caproate and the success encountered in its use have reawakened an interest in progesterone and progesterone-like agents in clinical practice. New oral progestational agents, analogues of 17-alpha ethinyl testosterone, were introduced and these agents (norethindrone and norethynodrel) known as 19 nor-steroids, proved highly potent oral agents, many times more effective than ethisterone. Norethindrone is 19-nor 17-alpha-ethinyl testosterone and is very similar in chemical structure to ethisterone, except for the loss of a methyl group in the 19th position (Fig. 2) and this compound is probably 10-12 times more effective, milligram for milligram, than ethisterone. Norethynodrel behaves very similarly to norethindrone and has about the same potency. Norethynodrel is 17-alpha-ethinyl-17-hydroxy-5(10)-estren-3-one and very similar structurally to 19 nor 17-alpha ethinyl testosterone, except for the positions of the double bond in the ring A (Fig. 2). Both these



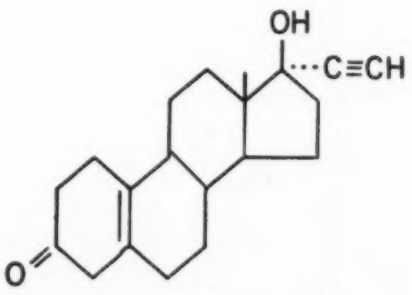
Testosterone



17alpha-ethynyl-testosterone
(Ethisterone)



19 nor-17alpha ethynyl-
testosterone
Norethindrone(Norlutin)



17alpha-ethynyl-17-hydroxy
5(10)-Estren-Norethynodrel
(Enovid)

Figure 2: Note structural similarity of the 19-nor steroids to testosterone.

agents are very effective in the treatment of those disorders where progesterone is indicated. Both have estrogen contaminents commercially and the former, and some inherent androgenicity. Their use in habitual abortion, however, is not recommended since these agents, especially norethindrone, because of its inherent androgenicity, has been responsible on rare occasions for masculinization of the female fetus. In two of our cases, the clitoris was slightly enlarged. The enlargement was more evident than real and no treatment was necessary. However, an occasional instance of labial (scrotal) fusion and urogenital sinus has been reported(3). Such findings have been reported following testosterone, ethisterone, stilbestrol, progesterone, norethindrone, and norethynodrel. In all fairness, it must be said that several cases have been encountered in which the mother did not receive any hormonal medication whatsoever during her pregnancy(4).

The most rewarding use for norethindrone or norethynodrel is for the management of functional uterine bleeding. The administration of 30-60 mg. when the patient is first seen will arrest bleeding within 6-24 hours in almost every instance. Then the patient is placed on 20-30 mg. per day until such time as the physician feels that she is ready for her withdrawal period. This will depend on the degree of exsanguination and the state of health of the patient. As a rule, the treatment schedule will vary from 5 to 30 days. A normal withdrawal period will occur 2-3 days after the last day of therapy. Three weeks later, 5 mg. tablets, one daily for 5 days, are administered to induce a withdrawal period. This regimen is repeated at cyclic intervals (each month) until it is felt that spontaneous cyclic menses have set in. This may be determined by the study of basal temperature records, cervical mucus, and endometrial biopsy if indicated.

Case history:

Case 2: Functional uterine bleeding in a young female.

Miss C. D., age 16 years, had a D&C twice for uterine bleeding which proved effective for only 2-4 weeks. When seen by us, she had been bleeding off and on for four months. Thirty mg. of norethindrone was administered daily for 17 days. Bleeding was arrested within 12 hours. A normal withdrawal period occurred two days after the medication was stopped. The patient was instructed to begin taking 15 mg. of norethindrone daily 21 days after the onset of the withdrawal period; however, bleeding began on the 16th day. She was therefore advised to start her medication at once and to continue for 10 days. Bleeding stopped within 24 hours and a normal withdrawal period occurred. For the next two months the patient was advised to start medication on day 15 and to continue it for 10 days. Then she was advised to take her medication from day 21-25 each month. This schedule is being continued until her basal temperature records reveal that spontaneous ovulation has begun. The patient remains well and fear of prolonged bleeding has been removed.

Case 3: Functional uterine bleeding - menopausal

Mrs. L. M. P., age 46, was bleeding for 7 weeks. A suction curettage was performed and was later reported as hyperplasia of the endometrium. In the meantime, she was given 20 mg. of 19-nor 17-alpha ethinyl testosterone acetate and advised to take medication for the following 11 days. Bleeding was arrested within 6 hours. A normal withdrawal period occurred four days after cessation of therapy.

Newer progestational agents are being made available both for oral and intramuscular use. Acetylation of 19-nor 17-alpha ethinyl testosterone has increased the potency of this 19-nor steroid. Furthermore, two potent homologues of progesterone also have been studied and found to be purely progestational in nature without inherent estrogenicity or androgenicity. These are 6-methyl-17-acetoxy progesterone, and 6-methyl-17acetoxy Δ^6-progesterone. The first of these is now commercially available and is a very useful progestational agent(5). Two other long-acting progestational agents are still under clinical investigation. One is 6-methyl-17-acetoxy progesterone for intramuscular use; the other, 19-nor 17-alpha-ethinyl testosterone enanthate, and both have been found most promising. When injected at 7-10 day intervals, patients have remained amenorrheic for 6 months with abatement of pelvic discomfort and disappearance of much of the induration in the cul

de sac and utero-sacral ligaments, and decrease in size of tender, palpable ovarian masses. Some patients require the addition of a long-acting estrogen with these progestational agents in order to avoid breakthrough bleeding. In this respect they behave similarly to combinations of 17- hydroxyprogesterone caproate (125 mg). and estradiol valerate (5 mg.) in the management of endometriosis. Although these observations are still in the experimental stage, new hope is offered for the conservative management of endometriosis(6).

REFERENCES

1. Greenblatt, R. B., Barfield, W. E., Clark, S. L., and Brown, N.: Physiological effectiveness of oral progesterone. J. Clin. Endocrinol., 10:886, 1950.

2. Greenblatt, R. B., and Clark, S. L.: The use of newer progestational preparations in clinical practice. Med. Clin. N. Am., 857 (March) 1957.

3. Grumbach, M. M., Ducharme, J. R., and Moloshok, R. E.: On the fetal masculinizing action of certain oral progestins. J. Clin. Endocrinol. and Metab., 19:1369. 1959.

4. Wilkins, L., Jones, H. W. Jr., Holman, G. H., and Stempfel, R. S. Jr.: Masculinization of the female fetus associated with administration of progestins during gestation: Non-adrenal female pseudohermaphroditism. J. Clin. Endocrinol. and Metab., 18:559. 1958.

5. Greenblatt, R. B., and Barfield, W. E.: The progestational activity of 6-methyl-17-acetoxyprogesterone. South. M. J., 52:345. 1959.

6. Kistner, Robert.: The treatment of endometriosis, by inducing pseudopregnancy with ovarian hormones. Fert. and Steril. 10:539, 1959.

PSYCHIATRIC HOSPITAL COSTS

The average daily expenditure per day in 1959 for each patient in the nation's federal psychiatric hospitals was $11.24, compared with $10.61 in 1958. In the voluntary psychiatric hospitals the average expense per patient day was $16.72 (an increase of 37 cents over 1958); in the proprietary psychiatric hospitals, $17.33 (a decrease of 33 cents from 1958), and in the state and local governmental psychiatric hospitals, $4.44 (an increase of 33 cents over 1958).

(American Hospital Association)

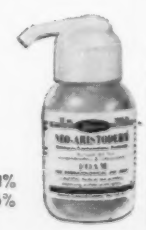
YOUR CHOICE OF FIVE TOPICAL FORMS

Neo-Aristoderm®

Foam Neomycin–Triamcinolone Acetonide

7.5 cc. and 15 cc. push-button dispensers

Neat, not messy or sticky—spreads readily without irritation or burning—for oozing, crusted, severely inflamed and injured skin or mucous membranes.



Each cc. contains:
Aristocort Triamcinolone Acetonide, 1 mg. . . . 0.1%
Neomycin Sulfate, 5 mg. 0.5%

Precautions: Contraindicated in herpes simplex. Sensitivity reactions to neomycin occasionally occur.

Aristoderm®

Foam 0.1% Triamcinolone Acetonide

7.5 cc. and 15 cc. push-button dispensers

Precautions: Contraindicated in herpes simplex

Aristocort

Cream 0.1% Triamcinolone Acetonide

Tubes of 5 and 15 Gm.

Precautions: Contraindicated in herpes simplex.

and allergic skin conditions . . .
simple, sparing application – prompt, symptomatic relief –

Aristocort®

Triamcinolone Acetonide

topicals

HIGHLY ACTIVE WHEN DIRECTLY APPLIED TO SKIN LESIONS

A recent study has demonstrated the efficacy of triamcinolone acetonide 0.1 per cent in 222 patients with a variety of allergic and inflammatory dermatoses. The conditions included in the study were contact dermatitis, seborrheic dermatitis, neurodermatitis, atopic dermatitis, and pruritus vulvae.

The anti-inflammatory and antipruritic efficacy of triamcinolone acetonide was shown by the prompt control of itching and resolution of affected areas. Cahn, M. M., and Levy, E. J.: A Comparison of Topical Corticosteroids: Triamcinolone Acetonide, Prednisolone, Fluoromethalone, and Hydrocortisone.

Antibiotic Med. & Clin. Ther. 6:734 [Dec.] 1959.

Aristocort®
Ointment 0.1% Triamcinolone Acetonide

Tubes of 5 and 15 Gm.

Precautions: Contraindicated in herpes simplex

Neo-Aristocort®
Eye-Ear Ointment 0.1% Neomycin–Triamcinolone Acetonide

Tubes of ⅛ oz.

For inflammatory, allergic, infective eye and ear conditions

Each gram contains:
Aristocort Triamcinolone Acetonide . . . 1 mg.
Neomycin Sulfate . . . . . 5 mg.

Precautions: Contraindicated in herpes simplex. Sensitivity reactions to neomycin occasionally occur.

Lederle

LEDERLE LABORATORIES
A Division of
AMERICAN CYANAMID COMPANY
Pearl River, New York

The Humoral Agent of the Pregnancy Toxemias

William E. Crisp, M.D.
John G. Boutselis, M.D.

The hypothesis that serotonin is the initiating humoral agent of the pregnancy toxemias is presented. A pregnant animal (rabbit) study and a clinical study of both normal and toxic pregnancies revealed no significant differences in serotonin metabolite excretion.

Conclusion: The data herein does not support serotonin as the initiating humoral agent of the pregnancy toxemias.

The name toxemia implies a circulating toxin as the etiological agent of this syndrome. This study explores the possibility of 5-hydroxytryptamine (serotonin) being the initiating humoral agent of toxemia.

THE SEROTONIN HYPOTHESIS

Serotonin (5-HT) is an indole amine that was first isolated in 1947. It is derived from the amino acid tryptophan and the enterochromaffin cells of the gut are the main source of 5-HT production.(6,14,15)

Serotonin is omnipresent in the mammalian organism: being found in the gastrointestinal tract, platelets of the circulating blood,(7,29) lung, mast cells of skin, and the pineal gland in the brain.

5-HT is selectively destroyed by the enzyme monoamine oxidase. Endogenous metabolism is rapid and it is excreted in the urine as a 5-hydroxyindoleacetic acid (5-HIAA).

Serotonin is essentially a pressor amine.(18, 19,23) It is a potent constrictor of smooth muscle and an antidiuretic. It also facilitates blood coagulation; it increases capillary permeability, and it is known to function in the central nervous system and at the synaptic junctions.

With this brief resume of the present knowledge of serotonin and its pharmacology in mind, our hypothesis of the possible relationship between toxemia of pregnancy and serotonin is as follows:

It is generally agreed that the basic pathophysiology of toxemia is generalized arteriolar constriction.(1,3,4,11) The humoral agent that initiates this vicious circle of vascular spasm is thought to originate in the placenta, since this is the only additional organ that is always associated with this singular syndrome.

It is known that toxemia is associated with both local and systemic conditions that have in common an inadequate placenta that is deficient both histologically and clinically. Toxemia has its highest incidence after the 28th week when the demands of the pregnancy are at their acme. Bartholomew(2) has demonstrated an increased number of infarctions in these plaentas and Assali has shown that the decidual vessels show

From the Department of Obstetrics and Gynecology, Ohio State University College of Medicine. This work was supported in part by a grant from the Ohio Heart Association (November 1956) and the Upjohn Company.
Present address — 926 East McDowell Road, Phoenix, Arizona.

increased atheromatous deposits in the intima. Clinically we know that these placentas are associated with a relatively high incidence of premature separation and malnourished premature infants.

In diseases that are known to be associated with generalized vascular damage such as diabetes, chronic renal disease and essential hypertension, these placental lesions have a much higher incidence, and toxemia is more common.

Toxemia is also more common in susceptible primiparous patients who have increased their vascular load by excessive weight gain; twin pregnancies, which have a greater placental demand; elderly patients who have a more brittle vascular tree, and in malnourished patients who have poor capillary and vascular tone with increased capillary permeability.

All of these conditions listed have one basic common denominator—placental ischemia. With placental ischemia comes tissue death, blood clotting with fractionation of platelets and release of serotonin, a known pressor amine.

Although the placenta is known to be rich in monoamine oxidase,(9) the deactivator of 5-HT,(23) the activity of this enzyme is extremely sensitive to changes in the oxygen tension of the environment in which it is operating. A relatively slight fall in oxygen tension causes a profound inhibition of enzyme activity. This placental enzyme shows a 50% inhibition of activity as the oxygen tension of the gas phase with which the enzyme suspension is in equilibrium is reduced from 20% to 5%, with an even more rapid rate of inhibition as the oxygen tension falls still lower.(8) Therefore, with the placental ischemia associated with toxemia, monoamine oxidase would be less effective in deactiviting serotonin because of the decreased oxygen tension.

Thus, we concluded that serotonin might be the humoral agent that causes the initial ischemia of the kidney,(16,25) which in turn has been proved to produce vasopressor substances. The renin formed from the initial renal ischemia acting on the renin substrate forms hypertensinogen or angiotonin causing generalized vasoconstriction, which is the basic pathophysiologic change in the vicious circle of pre-eclampsia.

With hydatidiform mole and choriocarcinoma, tissue necrosis is produced by a rapidly growing trophoblast with minimal blood supply. Platelet fractionation, and release of serotonin follows.

With a prolongation of the generalized ischemia, the process gains momentum by focal tissue necrosis in other organs and further release of serotonin and thromboplastin. It is the releases of thromboplastin following ischemic tissue death that gives the morbid microscopic lesions that have been considered pathognomonic of the pregnancy toxemia.(20,21) This, of course represents a far-advanced toxic process, since Dieckman(5) demonstrated that in the vast majority of patients with pre-eclampsia, classical renal and hepatic lesions are not present.

The electrolyte and fluid disturbances of toxemia are secondary to the impaired renal function associated with the normal adrenal hyperplasia of pregnancy.(10)

Once the patient is delivered, the initiating factor is gone, and the circulatory load is decreased. The vast majority of patients will then re-establish vascular homeostasis, although those patients with a low vascular-renal reserve such as occurs in chronic renal disease, diabetes, etc., do have permanent effects.

METHOD OF STUDY

The problem of establishing whether serotonin was or was not associated with toxemia was approached from both the experimental and the clinical sides.

ANIMAL STUDY

Fifteen domestic rabbits which were in the last trimester of pregnancy (20 to 22 gestation days) were given the renal blanching dose determined by Page and Glendening(13) of 0.007 mgm. of serotonin base*(22) per 100 gm. of body weight every 8 hours for 3 or 6 doses. This dose was given via the lateral ear vein over a 2-minute period.

Observations

During the injection, there was marked blanching of the ear secondary to vascular

*Serotonin base furnished by Research Laboratories of the Upjohn Company.

spasm. Within 30 seconds after completion of the injection, the rabbit would hyperventilate. This would continue for about 90 seconds and would be followed by a clonic seizure and exacuation of bowel and bladder. This period of hyperactivity was followed by a period of tonic contracture, stupor and oliguria that varied in each animal.

We were unable to obtain satisfactory blood pressure readings, although most authorities(10, 12,17) concur that serotonin causes only a transient hypertension followed by a hypotension.

Six rabbits (40%) aborted immediately following or within 12 hours of the above episode. Three additional rabbits delivered stillborns and all of the remaining animals delivered prematurely.

Although there was a temporary decrease in urinary output, no increase in 5-hydroxyindolacetic acid was found.(26,27) All animals had proteinuria during the first 24 hours.

A complete autopsy of each animal failed to show any of the lesions usually thought to be associated with toxemia except placental hemorrhage, which was found in all animals in various degrees.

In five additional animals, typical pathologic lesions of toxemia were demonstrated when thromboplastin was given with serotonin as described by Schneider.(20)

CLINICAL STUDY

From September 1, 1956 through September 1, 1957, a total of 63 determinations were made on 40 patients from the Obstetrical Clinic of Ohio State University Hospital for levels of 5-hydroxyindolacetic acid in the urine. These patients were divided into four groups as follows: (1) normal pregnancy and pregnancy complicated by non-toxic complications; (2) pregnancies complicated by pre-eclampsia; (3) pregnancies complicated by eclampsia, and (4) toxic pregnancies associated with placental abruption.

Twenty-four hour urine collections were obtained on all patients. The method for determining 5-hydroxyindolacetic acid was that of Udenfriend et al.(26,27)

None of the patients had eaten bananas or other foods with a high serotonin content for at least 48 hours before the urines were taken. In the toxic patients, many of the urines contained metabolites of the antihypertensive drugs, Reserpine and Hydralazine. Although these drugs are serotonin antagonists, they do not affect the urinary excretion of 5-hydroxindole acetic acid.

RESULTS

Sjoerdsman, Weissbach, and Udenfriend established the normal of 5-HIAA excretion in the urine as 9 mg. or less per 24 hours.(23) All of the data collected on our pregnant patients, both normal and toxic, demonstrated a normal urinary 5-HIAA excretion in all groups.

CONCLUSION

The placental hypothesis originally proposed by Page and Glendening suggested that the generalized clotting process that occurred through the body in some cases of abruptio placentae fractionated a large mass of platelets, thereby liberating the pressor amine serotonin into the blood stream which resulted in renal ischemia. This hypothesis appeared reasonable to us and we reasoned that if it could occur with a clinical placental separation, why could it not occur with a subclinical separation secondary to placental ischemia as previously discussed?

From our clinical and experimental studies we concluded that:

(1) Serotonin, when injected into pregnant rabbits in the doses described, can cause a transient clinical picture of eclampsia associated with placental hemorrhage, since it is known to be a strong stimulant of smooth muscle.

(2) Tissue death, liberation of thromboplastin, and clot formation are necessary for the morbid anatomy found in toxemia.

(3) The level of 5-HIAA excreted in the urine is probably not a true reflection of the circulating 5-hydroxytryptamine, since the animals that received large doses did not show an increased excretion of 5-HIAA.

(4) The measurement of the 5-HIAA in both normal and toxic pregnant patients was found to be within normal limits.

We suggest that ischemic placental necrosis with resultant blood clotting liberates the pressor amine that initiates the syndrome of toxemia. Serotonin could still be this pressor amine although our study would deny this hypothesis. Two additional facts that support this conclusion are:

(1) Monomine oxidase inhibitors do not give a pre-eclamptic syndrome in pregnant patients, and

(2) The incidence of toxemia is not increased in pregnant patients with a carcinoid tumor.(24)

SUMMARY

A combined animal and clinical study was conducted to determine whether or not 5-hydroxytryptamine (serotonin) was the humoral factor in the production of the toxemia syndrome of pregnancy. Our data does not support this hypothesis.

TABLE I: NORMAL PREGNANCIES FROM 28 WEEKS TO TERM

PNT.	5-HIAA Mgm. per 24 hrs.
J.C.	6.31, 5.32
B.C.	2.27, 3.01
A.C.	2.57
I.H.	2.93, 2.68
R.H.	5.19, 4.72
A.J.	4.15
E.W.	3.93

TABLE II: NON-TOXIC PREGNANCIES WITH MEDICAL, SURGICAL AND OBSTETRICAL COMPLICATIONS

PNT.	5-HIAA Mgm. per 24 hrs.	
E.M.	3.	Grand mal epilepsy
E.N.	6.91, 6.32	Grand mal epilepsy
M.P.	3.01, 4.13	Chronic hypertensive vascular dis.
N.P.	1.20, 2.53	Chronic hypertensive vascular dis.
E.W.	5.61, 5.72	Chronic hypertensive vascular dis.
P.W.	3.78, 6.02	Hypochromic anemia
E.R.	5.23, 5.79	Diabetes
D.R.	1.82, 2.53	Diabetes
N.H.	6.30, 4.36	Placenta previa
M.C.	2.69	Bleeding peptic ulcer

TABLE III: PREGNANCIES COMPLICATED BY TOXEMIA

PNT.	5-HIAA Mgm. per 24 hrs.
Pre-eclampsia	
D.A.	7.52
E.A.	2.49, 4.23
R.B.	2.52, 2.41, 3.03
E.B.	5.31, 4.82
S.B.	2.52
B.D.	4.80, 3.72
O.D.	5.18
E.D.	1.52, 1.83
E.E.	3.00
R.E.	7.24, 8.19
F.J.	3.86, 5.24
R.H.	1.76
G.H.	3.51
H.K.	2.62, 0.50
Eclampsia	
J.C.	3.72
M.N.	4.23
D.M.	2.01
D.E.	1.50
H.S.	6.37
Toxexima associated with Placental Abruption	
M.H.	1.21
C.M.	1.36
E.W.	3.92
H.G.	2.86

REFERENCES

1. Assali, M. S.: Bull Marg. Hague Maternity Hosp., 4:84 1952. Assali, M. S.: Ciba Clin. Symposium. 6:1, 1954.
2. Bartholomew, R. A. and Kracke, M. D.: Placental infarcts in the pregnancy toxemias. Am. J. Obst. & Gynec. 29:797, 1932.
3. Crisp, W. E. and McCall, M. L.: The Therapy of toxemia of pregnancy. Am. Pract. and Dig. Treat. 7:620, 1956.
4. Dieckmann, W. J.: Toxemias of pregnancy, 2nd Ed., St. Louis, Mosby, 1952.
5. Dieckmann, W. J., McCarthey, C. D., and Harrod, J. P., Jr.: Kidney biopsies in multiparous patients with vascular renal disease in pregnancy. Am. J. Obst. & Gynec. 75:634, 1958.
6. Espamer, V.: Pharmacological studies on enteramine (5-hydroxytryptamine) Arch. Internat. Pharmacodyn. 93:293, 1953.
7. Hardistry, R. and Stacey, R. S.: 5-hydroxytryptamine in normal human platelets. J. Physiol. 130:711, 1955.
8. Kohn, H. I.: Oxygen tension and activity of monoamine oxidase. J. Biochem. 31:1693, 1937.
9. Luschinsky, H. L.: Quantitative estimation of monoamine oxidase in the placenta in normal pregnancy and toxemia. Am. J. Obst. & Gynec. 59:906, 1950.
10. Masson, E. M. C., Corcoran, A. C., and Page, I. H.: Experimental production of a syndrome resembling toxemia of pregnancy. J. Lab. & Clin. Med. 38:213, 1951.
11. McCall, M. L.: Cerebral blood flow and metabolism in toxemia of pregnancy. Surg., Gynec., & Obst. 89:715, 1949.
12. Noble, J. G. and Nanson, E. M.: Serotonin-cardiovascular effects in animal experiments. Annals Surg. 150:846, 1959.
13. Page, E. W. and Glendening, M. B.: Production of renal cortical necrosis with serotonin (5-hydroxytryptamine). Obst. & Gynec. 5:781, 1955.
14. Page, I. H.: Serotonin (5-hydroxytryptamine) Physiol. Rev. 38:177, 1958.
15. Page, I. H.: 5-hydroxytryptamine. Edited by G. P. Lewis. New York, Pergamon, 1957.
16. Page, I. H. and McCubbin, I. W.: Renal vascular and systemic arterial responses to nervous and chemical stimulation of the kidney. Am. J. Physiol. 173:411, 1953.
17. Page, I. H. and McCubbin, I. W.: Arterial pressure response to infused serotonin in normotensive dogs, cats, hypertensive dogs, and man. AM. J. Physiol. 181:265, 1956.
18. Rapport, M. M., Green, O. O., and Page, I. H.: Serum vasoconstrictor (serotonin): I.V. Isolation and characterization. J. Biol. Chem. 176:1243, 1958.
19. Rapport, M. M., Green, O. O., and Page, I. H.: Serum vasoconstrictor (Serotonin): III Chemical inactivation. J. Biol. Chem. 176:1237, 1958.
20. Schneider, C. L.: Fibrin embolism (disseminated intravenous coagulation) and the aetiology of eclampsia. J. Obst. & Gynaec. Brit. Emp. 58:538, 1951.
21. Schneider, C. L.: Thromboplastin complications of late pregnancy. Toxemias of Pregnancy, Philadelphia, Blakiston, 1950.
22. Speeter, M. E., Heizelmann, R. V., and Weisblat, D. I.: Synthesis of blood serum vasoconstrictor principle, serotonin. J. Am. Chem. Soc. 73:5515, 1951.
23. Sjoerdsma, A., Weissbach, H., and Undenfried, S.: Metabolism of 5-hydroxytryptamine by monoamine oxidase. Proc. Soc. Exper. & Biol. Med. 89:36, 1955.
24. Sjoerdsma, A., et. al.: A clinical physiologic and biochemical study of patients with malignant carcinoid. Am. J. Med. 20:520, 1956.
25. Spinazzola, A. J. and Sherrod, J. R.: The effects of serotonin (5-hydroxytryptamine) in renal hemodynamics. J. Pharmacol. & Exper. Therp. 119:114, 1957.
26. Undenfriend, S., Titus, E., and Weissbach, H.: The identification of 5-hydroxy-3 endolacetic acid in normal urine and a method for its assay. J. Biol. Chem. 216:499, 1955.
27. Vane, J. R.: A sensitive method for the assay of 5-hydroxytryptamine. J. Pharmacol. & Chem. 12:344, 1957.
28. Wilkins, R. W. and Hollander, W. Serotonin and antiserotonins. Circulation 16:256, 1957.
29. Zucker, M. B., Friedman, B. K. and Rapport, M. M.: Identification and quantitative determination of serotonin (5-hydroxytryptamine) in blood platelets. Proc. Soc. Exper. Biol. and Med. 85:282, 1954.

Florence Nightingale ...A Great Woman

Josephine Barger, R.N., M.N., M.S.

In 1860, just 100 years ago, England had just finished a small war in the Crimea and at that time, as in the present, had a queen on the throne. United States was about to start a great war in which there were more casualities than in all her other wars combined, including both World Wars and Korea. Huge covered-wagon trains were crossing the Great Plains, taking months to get to California or Oregon. But the Overland Stage, in a route through El Paso and Tucson, carried mail and passengers from Tipton, Missouri to San Francisco in only 25 days and for $200.

Not too long before, the plague had spread up the Mississippi Valley and over the plains. Anaesthesia had been in use for only a few years, and the causes of infection were not yet known. Lister did not publish his paper until 1866. Many doctors were still bleeding and purging their patients. Surgeons carried their instruments in their pockets or little black bags and prepared to operate by rolling up their sleeves and sticking threaded needles in their lapels or the front of their shirts.

Hospitals generally were filthy, uncomfortable places, used only by the very poor who could get care in no other way. Most nursing care was given only by members of religious orders or other well-intentioned amateurs, or by paid drudges often similar to the immortal Sairey Gamp.

One strong-willed, obstinate, and effective woman, with an infinite capacity for taking pains, was able to effect sweeping changes in hospitals and the care given to patients at that time. Florence Nightingale is best remembered as the gentle "Lady with the Lamp." But she was no sweet, shy, delicate flower of Victorian womanhood. She was a hard boiled pro – bent on codifying the techniques of nursing and converting them from the self-learned, well-intended and inept ministrations of the amateur into the trained, equally well-intended, effective procedures of the professional.

INCREDIBLE SUCCESSES

Her influence and accomplishments would have been remarkable at any time in history. In Victorian England they were incredible. There were two important factors in her successes. Her position in society at that time could not be questioned. Her family moved naturally among peers and cabinet ministers and she had intimate friends in that group. In those days, even more than today, that set was a narrow one. With her friends in high places, she was able to go directly to the Queen, and she received attention when she spoke.

In addition, she was most personable, using charm and great tact in expressing her opinions.

Presented before the Phoenix Medical History Society, April 29, 1960.

She had prepared herself as few were able to do, and always used facts rather than impressions to give substance to her proposals. She had great tenacity and singular interest in all matters concerning hospitals and patient care.

In 1857, after her return from the Crimea, when asked by the Sanitary Commission what hospitals she had visited she replied, "I have visited all of the hospitals in London, Dublin, Edinburgh, many county hospitals, some naval and military hospitals in England; all the hospitals in Paris and studied with the Sisters of Charity; the Institute of Protestant Deaconesses at Kaiserwerth on the Rhine, where I was twice training as a nurse; the hospitals in Berlin and many others in Lyons, Rome, Alexandria, Constantinople and Brussels; also war hospitals of the French and Sardinians."

At the time she went to Scutari in November 1854, she was 34 years old and had been Superintendent of Nurses at a nursing home in Harley Street. She was strong, mature and experienced, and prepared for what she might find there. When one of her group of nurses said, as they approached the military hospital, that they should immediately set about "nursing the poor fellows," she drily remarked that the "strongest will probably be needed at the washtubs."

REAL WORK BEGINS

Here, in the barracks hospital at Scutari, her real work began. The official viewpoint, as expressed by the British Army Medical Corps, was that things were about as they could be expected to be. But not so the viewpoint of Miss Nightingale, as well as that of more impartial observers, some representatives of the press. She found that worst of all messes, where no one is to blame, just routine confusion and administrative collapse. Supplies were rotting in warehouses; the hospital had been built over sewers and was unbelievably filthy and filled with vermin; it contained four miles of beds, so close together one could hardly walk between them; the commonest things were lacking, no basins, no towels or sheets, no soap or brooms or mops, no trays, or plates, or knives, forks and spoons, no laundry; there were very few stretchers or splints, very few bandages or dressings of any kind; very little drugs. The only care given was by convalescent soldiers not quite ready to return to duty.

Before leaving England, she had been told no supplies were needed, but she had brought many things with her and had adequate funds to buy other necessary items locally. Her commission to the Crimea had stated that she could take nurses only to the wards where requested by the medical officers. Some requested this immediately. And since she had the only available supplies at her personal disposition, she soon had her nurses in every part of the hospital.

She reorganized the kitchen so that for the first time the men had warm food that was fit to eat; she started a laundry; she provided the commonest material objects, the most ordinary cleanliness, the most rudimentary habits of order. She saw to it that the doctors' orders were scrupulously carried out. And men lived who would have died before she came.

LADY WITH THE LAMP

Late at night, she made her rounds of the hospital with her lamp to see that the things that should have been done, were done. The soldiers developed an almost hysterical devotion to her that proved to be one of her great strengths when she returned to England.

Her other ace in the hole, which she never hesitated to use, was her direct line to the war ministry and her long and confidential reports to her great friend, Sidney Herbert. Here, too, she met Dr. John Sutherland who became her confidant and advisor for over 30 years.

After prodigious labors for almost three years, she fell ill and returned to England in 1856 to find herself the idol of the nation. Because of that, and because of her powerful friends, she occupied an extraordinary, interesting and influential position for many years. She actually had, in effect, the power of a cabinet minister without portfolio, dealing with various aspects of reform in the army medical services.

For years she saw Sidney Herbert, who was in the war ministry, almost daily as indicated by their voluminous notes and memoranda. He

had the one thing she lacked and could never have, the public power and authority belonging to a successful politician. Her notes and letters show that she teased and bullied, threatened and cajoled to get her ideas accepted. And she was effective. The final report of the Sanitary Commission was almost word for word what she had recommended.

At the same time she wrote and had published two small but important books; *Notes on Hospitals* was published in 1859, *Notes on Nursing (What It Is, and What It Is Not)* in 1860. And that same year, 100 years ago, she was effective in establishing the Nightingale Training School for Nurses at St. Thomas Hospital. Even then, some doctors were protesting a school for nurses, wondering where they could then get nurses to care for patients. But she successfully demonstrated several things in her school. In accepting and training secular nurses, she overthrew the medieval tradition that respectable nursing could be carried on only by religious orders. She established regular instruction in nursing and medical subjects with a certificate to be given as evidence of a certain competence. And she established nursing supervision of nursing and nurses.

PATTERN STILL HOLDS

There was almost immediate recognition that nurses who completed the courses in her school were generally more satisfactory and there was a great demand for their services by doctors and by hospitals. Nursing schools since that time have developed from the ideas she demonstrated there

Many of her succinct comments in *Notes on Nursing* are as appropriate and applicable today as they were 100 years ago. Her definition of supervising or being in charge was "to see that those things that should be done are always done, whether you are there or not." She emphasized regular instruction because "skill develops from controlled, corrected repetition of an act. It is the product of experience and criticism and intelligence." Again, "Between amateur and professional, there is a difference not only in degree, but in kind." In her clear, concise directions for writing nurses' observations, she observes that doctors are more interested in the notation of facts about patients than in the nurse's opinion of those facts. She urges nurses to take responsibility for the complete environment of a patient, what today we call "total care." She reminds nurses that they are not doctors, and should never undertake to give medical advice or recommend medical treatment. She felt that true nursing was wide enough and deep enough and required enough skill and intelligence to be a most satisfactory profession.

During these years, she was widely consulted about hospital construction. Few if any people of that time had more knowledge about what was needed in hospitals.

She had voluminous correspondence with Dr. Farr, who was virtually the founder of medical statistics. At one point she thanked him for the "delicious tables of statistics" he had sent to her.

In 1859, when Dr. James Paget was treating one of her maids, she asked him if he would help her by filling out some statistical forms especially prepared for hospitals. He agreed to do this, writing her three months later that St. Bart's had appointed a registrar and adopted the standard forms.

A GREAT WOMAN

Miss Nightingale lived for 90 years. For more than half of this time, from 1857 to 1910, she lay in a bed or in an invalid's chair, never seeing more than one visitor at a time, never more than three or four in a day. She was not paralyzed. No one ever stated that she had an organic disease. When anything unpleasant happened she had palpitation, rapid breathing and pain in her heart region. And in the meantime, everyone came to see her at her convenience. She must not have found this too dismaying.

During most of this time, confined to her room, she did an immense amount of work, reading, collecting volumes of information, writing countless letters, putting together elaborate memoranda and tables of statistics, perusing innumerable notes, many of which are preserved in 150 large volumes in the British Museum. She accomplished most of what she set out to do to the benefit of us all. She was a great woman.

Squaw Peak Notes Skunk Boats

By Dry Gulch Jake

THESE romantic remarks gained no inspiration from persual of "The Paprya of Thebes"; no emendation from Vesalius, "De Fabrica Humanis Corpis," but are prompted by an article on "Skunk Hydrophobia" which appeared in the Prescott Arizona Miner Journal, 1908.

"In the throes of unutterable agonies, J. W. Scantlin, the trapper who Saturday was brought to the County Hospital a victim of hydrophobia, died at midnight Sunday. — A month and ten days passed after the skunk bite, and before the victim noted anything wrong. Three days later — he was a corpse."

Dr. C. E. Yount, a pioneer Prescott physician, reported on "Skunk Hydrophobia" at the Annual Meeting of the Arizona Medical Society, May 10-20, 1909. "After careful investigation, I am of the opinion, that the skunk is not more the cause of hydrophobia than the dog. It seems that while it is possible for one to have hydrophobia after being bitten by a skunk, the idea has gained ground, to such an extent in The Southwest, that all skunks are called "hydrophobia skunks."(1)

Yount reported,(2) two fatal human cases, of his own, with four fatal cases from other counties in Arizona. Eighteen cases of skunk bite were reported between 1907 and 1909, the period of his study. Five of these developed rabies and all died.

At that time the Pasteur treatment for rabies was given only at special Pasteur Institutes. The nearest, or at least the one most frequently used by patients from Arizona, was located in Chicago. Yount further noted, "From the record of the Chicago Pasteur Institute for the past eighteen years, New Mexico has sent them only four cases for treatment as against thirty-three from Arizona. The Pasteur Institute at Austin, Texas from 1904 to 1908 received five cases from New Mexico and four from Arizona."(2)

In 1875, Janeway,(2) while on duty with the Army, reported ten fatal cases of rabies from skunk bite on the then Kansas Frontier, "Fort Hayes." The skunk was a well recognized cause of distribution of rabies and, for Arizona at least, the skunk was the most prolific source of infection; in fact, almost the only cause of rabies, quite reversing the order of frequency given by several authorities for other parts of the United States. Yount further deduced "In the absence of experimental proof, we believe that there is no such thing as a "hydrophobia skunk" per se, that all skunks are like other animals susceptible to rabies." And "When a skunk, an animal of nocturnal habits, generally timid, attacks man or other animals, accept this as evidence of rabies and have the victim receive Pasteur treatment."

Newspaper accounts of the danger of hydrophobia skunk bite were not uncommon, Joseph Miller, an authority on early news accounts in The Territory and State, has several such accounts in his files.(3) (4) (5)

The fear of hydrophobia skunks became so great that the Department of Interior sent Prof. H. L. Simmons to the desert areas of California and Arizona to find out the exact species of

hydrophobia skunks.(6) He stopped over in Flagstaff to see about the extermination of the skunk population. This same authority reported that seven persons died on the Arizona Frontier in a six weeks period from the bite of hydrophobia skunks. (1910) The learned professor also stated these skunks have a white stripe across the back and spots on the sides. To this country boy it seems the professor was confused about whether he was dealing with a broad stripe, narrow stripe or spotted (civet cat) (spigole)(7) variety of chemical warfare quadraped.

The account of the site of the bite usually related it was the nose or face, rarely a toe. The skunk is usually a slow, pedantic character, unafraid of Homo sapiens but not prone to attack. Therefore arose the great fear of the hydrophobia skunk and the belief that it must be a separate and distinct species of skunk. Well informed students, as Doctor Yount, were not so deluded.

A decade later the Salt River Valley was reported by Nelson(2) "The last record shows twenty-two cases of rabies (dogs) in a three month period in the Salt River Valley." (1917). (8) A plea was made for the control of dogs and no mention was made of skunk bites. He advised sending the brain of all dogs suspected of rabies to "The Warner Watkins Laboratory" for examination before treatment was started.

All writers of this period classified anti-rabies inoculations as treatment and commented upon the "cures." By this time the material was available to private physicians and the trip to the Pasteur Institutes no longer was necessary.

Now fifty years later careful epizootological work indicts the bat as a principle animal reservoir with epizootics waxing and waning amongst the desert dwellers such as the bats, coyotes, dogs, foxes, ground squirrels, skunks and wolves.

"Hydrophobia skunks," were real enough to the Arizona Cowhands. As late as the "roaring twenties" skunk boats were made to order by a local tent and awning purveyor.(9) These "boats" were made of heavy canvass, about six by three by two feet high. This could be folded and carried in a bed roll, opened it could be staked out, held by a stick at each corner with the bed roll thrown in it for sleeping at night. One cow puncher put it this way, "I wasn't much put out by rattlers, but to be bitten by a hydrophobia skunk, man that would be fatal."

The skunk boat has joined the prairie schooner in limbo. The schooner has suffered, of late, rediscovery by television.

Now "home on the range," hardly a pick-up cowpoke has ever heard of a skunk boat!

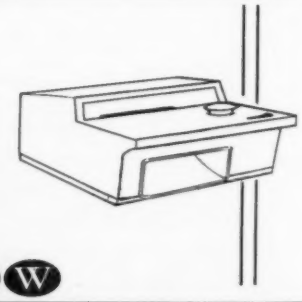
(John W. Kennedy, M.D.)

REFERENCES

1. Yount, C. E., Arizona Report, Journal American Medical Association, 53, No. 3, July 1909, p. 228.
2. Yount, C. E., Rabies, With report of Cases from Skunk Bites — Southern California Practitioner, 25, March 1910, pp. 105-116.
3. Miller, Joseph, Personal communication.
4. Journal Miner, Prescott, Arizona, 1908.
5. Arizona Bulletin, Solomonville, Ariz., 8, No. 1, March 31, 1899.
6. The Coconino Sun, 27, No. 33, July 29, 1910, p. 6.
7. Colliers Encyclopedia, 17, p. 630.
8. Drane, V. E., Hydrophobia, Bulletin, Arizona State Board of Health, 16, No. 3, July 1917, pp. 5-6.
9. Manning, Everett, Personal Communication.

JUST WHAT THE DOCTOR ORDERED . . .

iC INSTANT COPY PAPER
for use on your Thermo-fax machine



The new Copy Paper to give you:
SHARP COPIES . . . every period shows up!
TEAR-RESISTANT . . . durable, won't become brittle!
LONG-LASTING COPIES . . . Always fresh, fade resistant!

See For Yourself! Use It!

PBSW
OFFICE EQUIPMENT CENTER
801 W. INDIAN SCHOOL RD. • PHOENIX, ARIZ
AM 4-4141

THE HOSPITAL BENEFIT ASSURANCE PLAN
GUARANTEED RENEWABLE
FOR LIFE

THE H. B. A. LIFE INSURANCE COMPANY
A LEGAL RESERVE LIFE AND DISABILITY CAPITAL STOCK INSURANCE COMPANY
HOME OFFICE: FIRST STREET AT WILLETTA • PHOENIX, ARIZONA • ALpine 8-4888

DUKE R. GASKINS, M.D.
MEDICAL DIRECTOR

April, 1961

RE: Simplified Claim Service

Dear Doctor:

The Hospital Benefit Assurance Plan's membership card system for simplified, fast claim service is acclaimed by many doctors and for good reason.

The membership card, when presented upon patient's entrance into the hospital, initiates the claim. This system cuts "red tape," saves time and reduces the need for lengthy claim forms in about all but about 5% of our cases.

This claim system speeds payment to you for your services.

A schedule of allowances for various surgical procedures is printed in a Free folder describing the Hospital Benefit Assurance Plan. If you would like one of these folders, just send us a note on one of your prescription blanks and we will be happy to send you one.
Very truly yours,

Duke R. Gaskins, M.D.
Medical Director

Offices in:
First at Willetta
Phoenix, Arizona
456 N. Country Club Dr.
Mesa, Arizona
31 N. Tucson Blvd.
Tucson, Arizona

MUrray 1-2301

SYcamore 5-9901

2900 E. Del Mar Blvd.
(formerly Blanche Street)

Las Encinas

PASADENA, CALIFORNIA

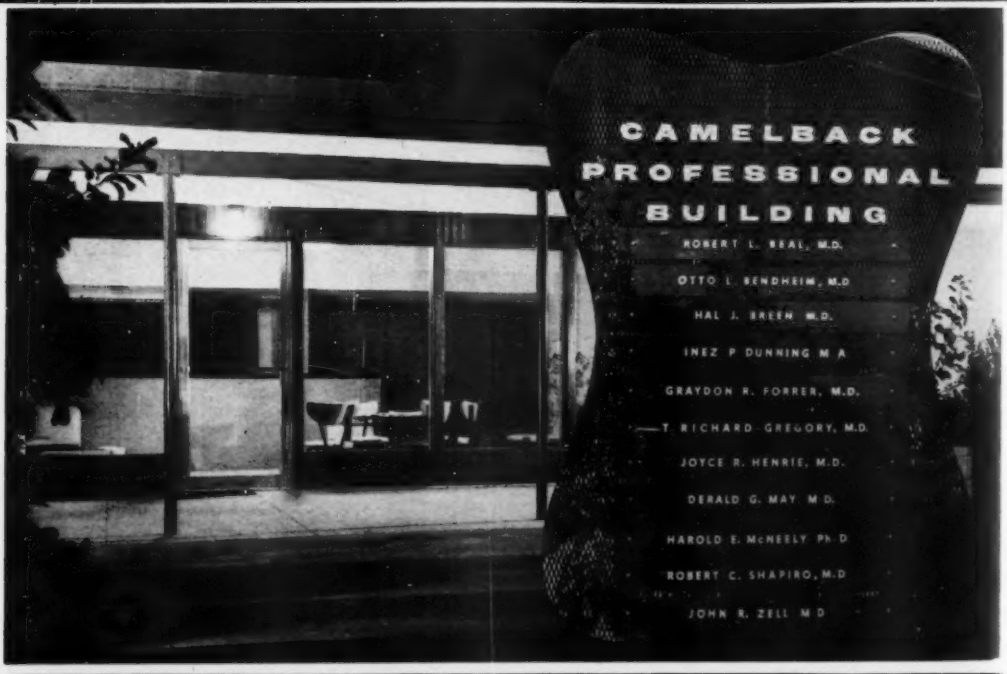
LAS ENCINAS, sheltered in its own landscaped park, is conveniently located in Pasadena. Fully equipped for the clinical study, diagnosis and care of medical and emotional problems. Full-time staff of certified specialists in surgery, medicine and psychiatry. Rooms, apartments and suites available in main building or attractive cottages.

CHARLES W. THOMPSON, M.D., F.A.C.P., Medical Director

STAFF

CLIFTON H. BRIGGS, M.D., F.A.C.S.
ETHEL FANSON, M.D., F.A.C.P.
DOUGLAS R. DODGE, M.D.
HERBERT A. DUNCAN, M.D.
KENNETH P. NASH, M.D.
STEPHEN SMITH III, M.D.
HARRIET HULL SMITH, M.D.
JOHN W. LITTLE, M.D.
DONALD C. BALFOUR, JR., M.D.
GERTRUDE J. JACKSON, M.S., Psychology

WRITE FOR OUR ILLUSTRATED BOOKLET



5051 North 34th Street, Phoenix, Arizona

Medical Society of the United States and Mexico

Presidential Address

W. R. Manning, M.D.

Members of the Medical Society of the United States and Mexico, distinguished guests, ladies and gentlemen:

I should like first of all to give a friendly greeting to the fine friends who have given so generously of their time to be here with us today:

Governor Juan Gil Preciado
Governor of the State of Jalisco

Mr. Adolph B. Horn
United States Consul

Dr. Juan I. Menchaca
Mayor of Guadalajara

Dr. Roberto Mendiola
Rector of the University of Guadalajara

Dr. Ignacio Chavez
Professor of Surgery
University of Guadalajara School of Medicine

It is with sincere appreciation that I thank Dr. Ignacio Chavez for his untiring work in the formation of this meeting. I can assure you that whatever Dr. Chavez does is done incomparably. The fact that he will be our next president leaves me with a confident feeling that no one could do a better job. I should also like to compliment, and most heartily, the various members who have given so much of their time in aiding in the preparation of this meeting.

We are greatly pleased to once again have the privilege of visiting this beautiful and charming city of Guadalajara. My friends and I never will forget the cordial and warm reception, the proverbial Mexican hospitality, the graciousness and friendship that we enjoyed during our visit to this city two years ago. We have held fond desires to return to Guadalajara in order to renew once again mutual friendships. I have always admired this city of hospitality and its inhabitants who stretch out the hand of welcome and say to us, "My house is your house."

I must apologize for not having given to this organization, which, in my opinion has an incomparable future, all of the zest and energy that it so well deserves. There have been many things crossing my mind that could and should be put into effect: monthly newsletter to all of

our members; development of a so-called Action Program; visiting at the time of meetings in the great States of Sonora, Sinaloa and Jalisco; a study of the serious problem facing the Mexican interns and residents in our hospitals; a meeting with Public Health authorities and the Governor of Arizona to offer any and all assistance by our organization; establish a series of lectures at the Guadalajara Medical School, and other schools, as well as at meetings in the various states of Mexico; work out a method of "clerkship" in our hospitals for especially deserving students; development of a directory of members of our society which would help in travel in our respective countries.

These and many other things have been ideas of approach referable to the growth of our organization that I would liked to have put into effect. They merely scratch the surface, and I can only offer to you that these as well as other activities might be considered as a gradually developing future in our Action Program.

History has shown that the United States has a very deep common interest with Mexico. This sense of mutual interest dates back to the times of the Monroe Doctrine and has led to the development of many international activities. In the 1930's, through the establishment of a Good Neighbor Policy, the United States showed a resurgence of activity. I believe at present we are once again seeing the development of a historic period in international relations between our two countries which will undoubtedly produce marked achievements. The place of medicine in this changing and developing concept of international relations must undoubtedly be prominent. The calibre of physicians in our two countries, in my opinion, is such that they must be community leaders. As community leaders they will take their place on various committees, etc., dealing with public service. Through the medium of this Society and through the intelligence and devotion of its member doctors, I expect the future to show steps forward in the binding together of our great countries. With the advent of ease and rapidity of transportation the world has grown a great deal smaller. This will allow greater interchange of people with its associated exchange of ideas, problems, etc. Our organization has an opportunity to grow forward with this new international look that is taking place all over the world.

I, for one, find that Mexico is a magnificent country containing a wealth of knowledge and I wish to take advantage of the friendliness that has been expressed so sincerely over a period of many years. As the wealth of this country, in regard to its culture, friendliness and interest grows and becomes understood by the physicians of the United States, you can expect a large influx that at the start will be recreation bent, but who will come to realize that there are great possibilities to learn in Mexico. They will come to profit greatly.

Our organization has a very basic value. It provides the formation of a framework with which we can conduct mutual relations and will have an opportunity to pool our efforts toward common goals. I know of no organization that has a better opportunity to forward the principle of unity between our two countries more than this one. This is one of the basic platforms of our constitution.

This Society is composed of devoted, intelligent and conscientious individuals which need only specific problems to solve in order to bring out a dedicated effort.

We are now at the close of another year and are about to enter into another administration of our Society. However, the past, present and future are not isolated as separate years in this organization and our story should be one of an unbroken chronicles. We should build on the legacy of previous administration. We must continue serving society with greater knowledge, experience and skill. It is to the dedication of these ideas that our Society must be founded and through mutual understanding and cooperation between doctors of our great countries we can, with time, build an organization that will accomplish the aims and principles to which we are dedicated.

Tomorrow grows out of today just as today was born of yesterday. The basic pattern, of course, remains the same but the particulars naturally are changed to match special tasks that confront us each year. The program of this Society should confront these tasks with positive measures working together in unity and forgetting any unhealthy selfish interests. This or-

ganization must consider that it was born of mutual understanding and need, and we must develop cooperative approaches to the problems that obviously lie ahead.

A nucleus such as ours can bear fruit and maintain its ideals only through close cooperation between all parties concerned. It is my hope that we can, by mutual respect and admiration, solve problems if we would but take a single course. I have reference specifically to the need, in my opinion, of formation of a definite platform which will keep the Society working together and not allow a lapse or a period of inactivity. I have the feeling that this Society can succeed and grow only if we maintain liaison with one another and have objectives to which physicians of both of our great countries can extend their efforts. A Society cannot be maintained on a single annual meeting alone.

Let us develop activity which might be called an Action Program. This can be in the form of issues either large or small that face us either as physicians or as citizen members of the Republic of Mexico or the United States of America. Many of our problems will face us as individual groups of physicians. However, others can best be solved by mutual cooperation between the physicians of our countries. But to achieve we must have a goal. In this program we might consider projects that answer local needs, projects that have an international flavor. I do feel however that we must concentrate on a minimum number of projects rather than dissipate valuable energy on a multitude of enterprises.

If our organization is to command national respect and accomplish a worthwhile purpose we must obtain local, national, as well as international prominence. This can come about only by action – either by our national components or together as an international group. Perhaps these words are ambiguous but I maintain the feeling that our growth will be decidedly limited and our value curtailed if we do not come forth into prominence by means of accomplishments.

I should like to suggest that we recognize the fact that our good friends from Mexico will be the stimulating leaders of this organization. Until the time comes when we have sufficient prestige and standing within the United States, our Society will necessarily be located mainly in the Southwest. One of the big problems in the United States facing the physician is a wide diversification of effort from too many societies. Mexico presents to my way of thinking, particularly when you consider the fine physicians of Jalisco, Sinaloa and Sonora, an opportunity to develop an organization that will be equaled by none. As a matter of fact, I feel that this organization can, should and will develop into a leading, if not the leading, medical group in the entire Republic of Mexico.

With prestige goes an acceptance of opinion. To influence society so that our aims can be realized and to have effect on problems our opinion must be held in high regard. With this goal in mind I should like very much to suggest, as I did some years ago, that instead of alternate meetings between the two countries we should have at least two or possibly three meetings in Mexico in successive years and then switch to the United States for one year.

I should also like to point out that in my opinion the meeting should be under the sponsorship and direction of the President-elect. I can assure you that the success of this meeting and its splendid character is entirely due to Dr. Chavez, our esteemed President-elect, and his very hard working incomparable committees. I take no credit whatsoever. I feel that the meetings should be established, if possible, in such a way that the President-elect as he comes into office would do so with a meeting that has been formed under his direction.

The thoughts that I have presented to you today are my own and have been stimulated after careful consideration as to the growth of our Society. That it has a place and satisfies a need – I have no doubt. The methods to be used to place it in its proper position of value require, I am sure, much more thought and deliberation. Of one thing I am convinced and this with all my heart – it must continue to grow and take its place in each of our great countries as a vigorous and leading Society composed of physicians dedicated to the aims and ideals so well expressed in our constitution. A more wonderful opportunity has never existed wherein men drawn together by the bonds of medicine can do so much for each other and for their respective great countries.

Discurso Presidencial

Dr. W. R. Manning

Miembros de la Sociedad Médica de los Estados Unidos y Mexico, distinguidos huespedes, damas y caballeros:

Ante todo quiero dar un amistoso saludo a los muchos finos amigos que tan generosamente han dado de su tiempo para estar hoy aquí con nosotros:

Gobernador Juan Gil Preciado
Gobernador del Estado de Jalisco

Senor Adolph B. Horn
Consul General de los Estados Unidos

Dr. Juan I. Menchaca
Presidente Municipal de Guadalajara

Dr. Robert Mendiola
Rector de la Universidad de Guadalajara

Dr. Ignacio Chavez
Professor de Cirugia de
Universidad de Guadalajara

Es con sincero aprecio que doy las gracias al Dr. Ignacio Chavez por su incansable esfuerzo en la formación de esta junta. Les aseguro que lo que el Dr. Chavez hace, lo hace incomparable. El hecho que él será nuestro siguiente presidente me deja satisfecho que nadie, mejor que él, podría desempeñar este puesto. Tambien quiero felicitar y muy bien merecido, a todos los miembros que tan disinteresadamente han dado de su tiempo en la preparación de esta junta.

Nos complace muy de veras gosarnos del anhelado privilegio de volver a visitar a Uds. una vez más en esta hermosa y encantadora ciudad de Guadalajara. Mis compañeros y su servidor nunca olvidaremos la cordial y calurosa acogida, la hospitalidad proverbial mexicana, las finezas y el compañerismo de que disfrutamos con Uds. durante nuestra visita a esta ciudad dos a.os pasados. Hemos soñado y abrigado vivos deseos repetidas veces de regresar a Guadalajara para estrecharnos una vez mas y reanudar nuestra mutua amistad. Siempre dmiro esta ciudad hospitalaria de mil encantos y a sus habitantes que nos dan la mano de bienvenida y nos dicen "mi casa es su casa".

Tengo que publicamente disculparme por no haber dado a esta organización, que en mi opi.on, tiene un futuro incomparable, toda la excitación y energia que tan dignamente merece. Mi situación personal al tiempo de mi elección, que tan generosamente me confiaron, era tal que me sentía algo indispuesto a servir por miedo de no poder llevar a cabo los muchos pensamientos que en mi mente ocurían para el desarrollo de esta organización. No pude, infelizmente, efectuar cosas tal como cartas noticiarias mensualmente a todos los miembros; el dessarrollo de un program de acción; visitas al tiempo de las juntas en los gran estados de Sonora, Sinaloa y Jalisco; un estudio del problema serio que se muestra a los médicos residentes mexicanos en nuestros hospitales; una junta con las autoridades de salud publica y el gobernador de Arizona para ofrecer cualquier y toda asistencia de nuestra organización. Estas y muchas otras han sido las ideas de entrada que yo quisiera haber afectuado. Estas ideas apenas rasguñan el superficie y unicamente les ofresco que estas así como otras actividades pueden considerarse como un desarrollo gradual de nuestro programa de acción. Mi embarazo de no haber sido un buen presidente es profundo y unicamente les prometo que en los años futuros de esta organización trataré de corregir la inactividad que caracterizó mi presidencia.

La historia nos muestra que los Estados Unidos tiene un profundo y común interest con Mexico. Este sentido de mutuo interest data desde los tiempros del Monroe Doctrine y ha dado principio a muchas actividades internacionales. En los años de 1930 (mil novecientos trienta) cuando se estableció el 'Curso de Buenos Vecinos", los Estados Unidos mostro un nacimiento de actividades. Yo creo con todo mi conocimiento que otra vez vemos en el presente un historico era en el desarrollo de las relaciones internacionales entre los dos paises que sin duda producerán notables ganancias. El lugar de la medicina en este variable y revelante concepto de relaciones internacionales sin duda tiene que sar prominente. El merito de los médicos en nuestros dos países, en mi opiñon, es tal que debemos ser caudillos in nuestros pueblos. Y como caudillos en nuestros pueblos manifestaremos nuestro deber en comités, etc., que traten con el servicio publico. Por medio de esta sociedad y por medio de la inteligencia de sus miembros, espero que el futuro muestre de aquí en adelante unidad en nuestros dos países.

Con la venida de la facilidad y la transportación rapida el mundo se ha encogido. Esto nos facilita reciprocos de gente con sus ideas y sus problemas. Nuestra organición tiene singular oportunidad de caminar adelante al nuevo horizante internacional que se muestra en todo el mundo.

Por mi parte, yo veo que Mexico es un magnifico país que contiene riquezas de cencia y quiero aprovechar de la amistad que tan sinceramente me han mostrado por tantos años. Cuando las riquezas de este país, en cuanto a su cultura, amistad y interes, aumenten y sean comprendidas por los médicos Americanos, se puede esperar muchedumbre de visitantes que al principio vendrán por diversión pero llegarán a realizar las potentes posibilidades de aprender en Mexico. Estos ganarán gran provecho.

Nuestra organización tiene un valor basico. Nos muestra el armazón o sea la manera con que podremos dirigir relaciones mutuales y tendremos la oportunidad de reconciliar nuestros esfuerzos a un fin común. No se de otra organización que mejor que ésta tenga la oportunidad de avanzar la estimación de unidad entre nuestros dos países. Esta es una de las primeras declaraciones de nuestra constitución.

Esta sociedad se forma de individuous concienzudos, inteligentes y devotos a su deber, que unicamente necesitan problemas especificos que resolves para efectuar sus esfuerzos dedicados.

Estamos en visperas de terminar este año y principiar otro en la administración de nuestra sociedad. No obstante el pasdo, el presente y el futuro no son años aislados en esta organización, y nuestra historia debe ser una crónica no interrumpida. Debemos aumentar las herencias de las administraciones pasadas. Debemos servir al publico con mas conocimiento, experiencia y habilidad. Es a la dedicación de estas ideas que nuestra sociedad debe ser fundada, y por medio de mutual armonía y cooperación entre los doctores de nuestros dos gran países podemos con el tiempo formar una organición que cumpla con los objetos y proporiciones a cuales nos hemos dedicado.

Mañana nace de hoy así como hoy nació de ayer. El modelo hasico por su puesto permenece lo mismo, pero los particulares naturalmente se cambian en conformación con las tareas que nos confrentan cada año. El programa de esta organización debe confrentar esta tareas con expidientes, trabajando en unidad y olvidando toda falta de interesados y malsana personalidad. Esta organización tiene que considerar que nació de conocimiento mutual y necesidad, y debemos de desarrollar entradas cooperativas a los problemas que sin duda nos esperan.

Un núcleo como el nuestro puede dar fruto y mantener sus ideas solamente por medio de atenta cooperación entre todos los miembros. Lo que yo espero es que podamas por respecto y admiración mutual, resolver problemas si unicamente tomaramos un solo rumbo.

Me refiero especialmente a la necesidad, en mi opiñon, de formar un programa exacto que mantenga a nuestra sociedad unidamente trabajando y que no permita un periodo de acción caída. Siento en mi que esta sociedad puede lograr éxito y crecer solamente si tenemos contactos unos con otros y si tenemos objectivos a los cuales médicos de ambos paises puedan ofrecer sus esfuerzos. Una sociedad no puede mantenerse con solo una junta por año.

Desarrollemos pues, actividad que se pueda llamar un Programa de Accioñ. Esto puede ser

asuntos grandes o pequeños que nos afrentan como médicos y ciudadanos de la Republica de Mexico o de los Estados Unidos. Muchos de nuestros problemas nos afrentan como grupos individuos de médicos. Sin embargo, otros se pueden resolver mejor con la cooperación mutual entre los médicos de ambos países. Pero para alcanzar tenemos que tener motivo. En esta programa podemos considerar projectos que satisfasen necesidades locales, o projectos de carácter internacional. Pero a mi parecer, debemos de concentrar en un minimo numero de asuntos practicos y no disipar importante energia en un multitud de projectos.

Si nuestra organización va a comendar el respecto nacional y un proposito merito, tenemos que alcanzar prominencia local, nacional y aún internacional. Esto llegará a cabo solo con acción ya sea por nuestros componetes nacionales o juntos como un grupo internacional. Tal vez estas palabras sean algo confusas. Pero yo no puedo mas que sentir que nuestro desarrollo será decididamente limitado y nuestra utilidad abreviada si no nos mostramos prominentemente por medio de hechos.

Quiero advirtir que reconozcamos el hecho que nuestros buenos amigos de Mexico serán los caudillos estimulantes de esta organización. Hasta que llegue el día que tengamos bastante prestigio y estimación en los Estados Unidos nuestra sociedad será de necesidad colocada por la mayor parte en el sud oeste. Uno de los grandes problemas que afrentan al médico en los Estado Unidos es la grande diversificación de esfuerzo a causa de tantas sociedades. Mexico presenta, a mi parecer, particularmente cuando se considera de los buenos médicos de Jalisco, Sinaloa, y Sonora, una oportunidad de desarrollar una organización sin par. Es un hecho positivo, que esta organización puede, debe, y desarrollará como el grupo médico principal, sino el primero de todo la Republica de Mexico.

Con el prestigio va al acceptación de la opiñon. Influir al publico para que nuestras inspiraciones sean realizadas y tomen efecto en los problemas nuestro opiñon tiene que estimar alta consideración. Con este fin en mente deseo proponer como propuse años pasados que en vez de juntas alternativas entre los dos países, tuvieramos a lo menos dos or posible tres juntas en Mexico en successivos años y luego volver a los Estados Unidos por un año. Tambien quiero decir que en mi opiñon debe de estar en la fianza y dirección del Presidente-Electo. Les aseguro que el éxito de esta junta y de su espléndido carácter se debe enteramente al Dr. Chavez nuestro estimado Presidente-Electo y a sus incansables y incomparables comités. Yo tomo ningún credito. Me parece que las juntas deben establecerse, si posible, de tal manera que el Presidente-Electo cuando tome su oficina la haría con una junta que ha sido formada bajo su dirección.

Los pensamientos que hoy les he presentado a Uds. son mios, y han nacido de diligente consideración al desarrollo de nuestra sociedad. Que merece un lugar y satisface una necesidad, no tengo duda. El modo que se debe usar para ponerla en su propia posición de valor requiere, estoy seguro, mucho mas estudio y deliberación. De una cosa estoy convencido, y esto con todo mi corazon, — tiene que continuar creciendo y tomar su lugar en cada uno de nuestros países como una viguerosa y principal sociedad compuesta de médicos dedicados a los fines y ideales tan bien expresados en nuestra constitución. Mas maravillosa oportunidad jamís ha existido donde los hombres juntados en la union de la medicina pueden hacer tanto el uno para el otro y para sus respectivos gran países.

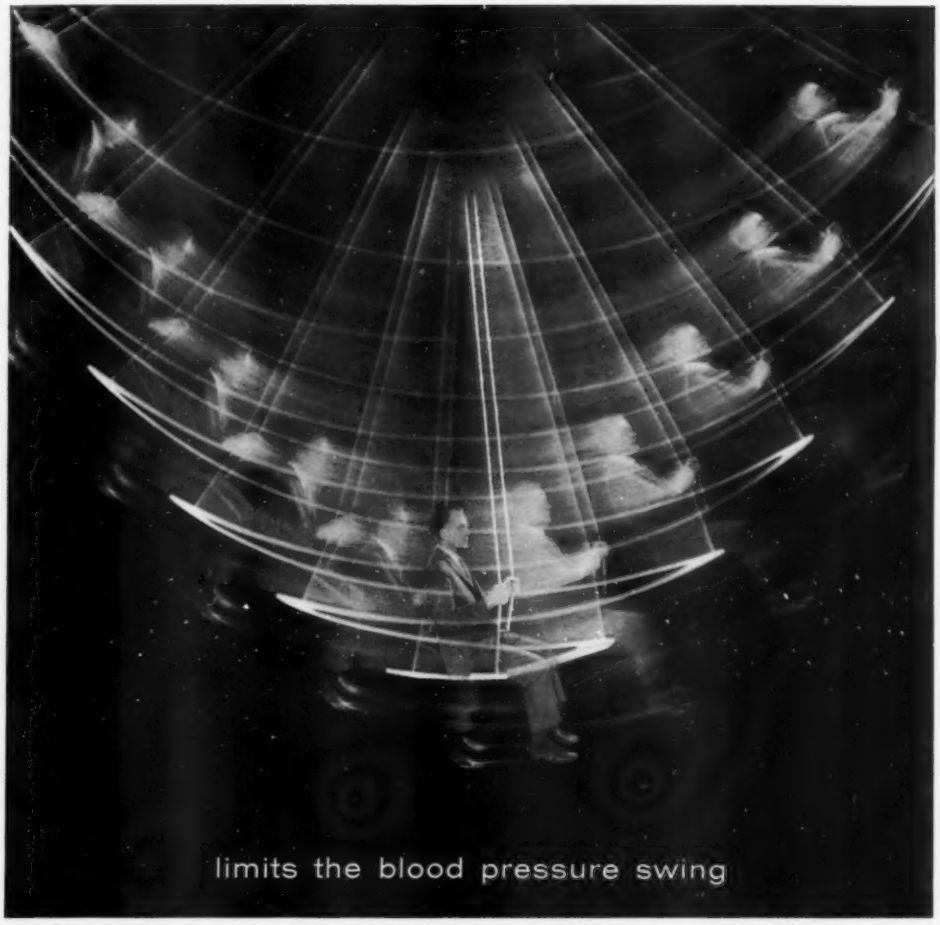
He dicho

Muchas gracias

LIFE EXPECTANCY

Women usually live longer than men in this country, and the relative difference has increased steadily since 1900. The average girl born in 1958 could expect to live 72.7 years, or 6.3 years longer than the 66.4 life expectancy for boys.

— Health Information Foundation



Rautrax-N lowers high blood pressure gently, gradually . . . protects against sharp fluctuations in the normal pressure swing.

Rautrax-N offers all the advantages of Raudixin, Naturetin and potassium chloride in a single dosage form *plus: increased efficacy* – Combined action of Raudixin and Naturetin results in a potentiated antihypertensive effect greater than that produced by either drug alone. *increased safety* – Potentiated action permits lower dose of other antihypertensive agents, thus reducing severity of side effects. Protection against possible potassium depletion. *flexibility* – Interchangeable with either Raudixin or Naturetin & K. *economy* – Maintenance dosage of only 1 or 2 tablets daily for most patients. *convenience* – Once-a-day maintenance dosage. Two potencies available.

***Supply:** Rautrax-N* – capsule-shaped tablets providing 50 mg. Raudixin, 4 mg. Naturetin and 400 mg. potassium chloride. *Rautrax-N Modified* – capsule-shaped tablets providing 50 mg. Raudixin, 2 mg. Naturetin and 400 mg. potassium chloride.

Rautrax-N*

Squibb Standardized Whole Root Rauwolfia Serpentina (Raudixin) and Bendroflumethiazide (*Naturetin) with Potassium Chloride

For full information, see your Squibb Product Reference or Product Brief.

SQUIBB

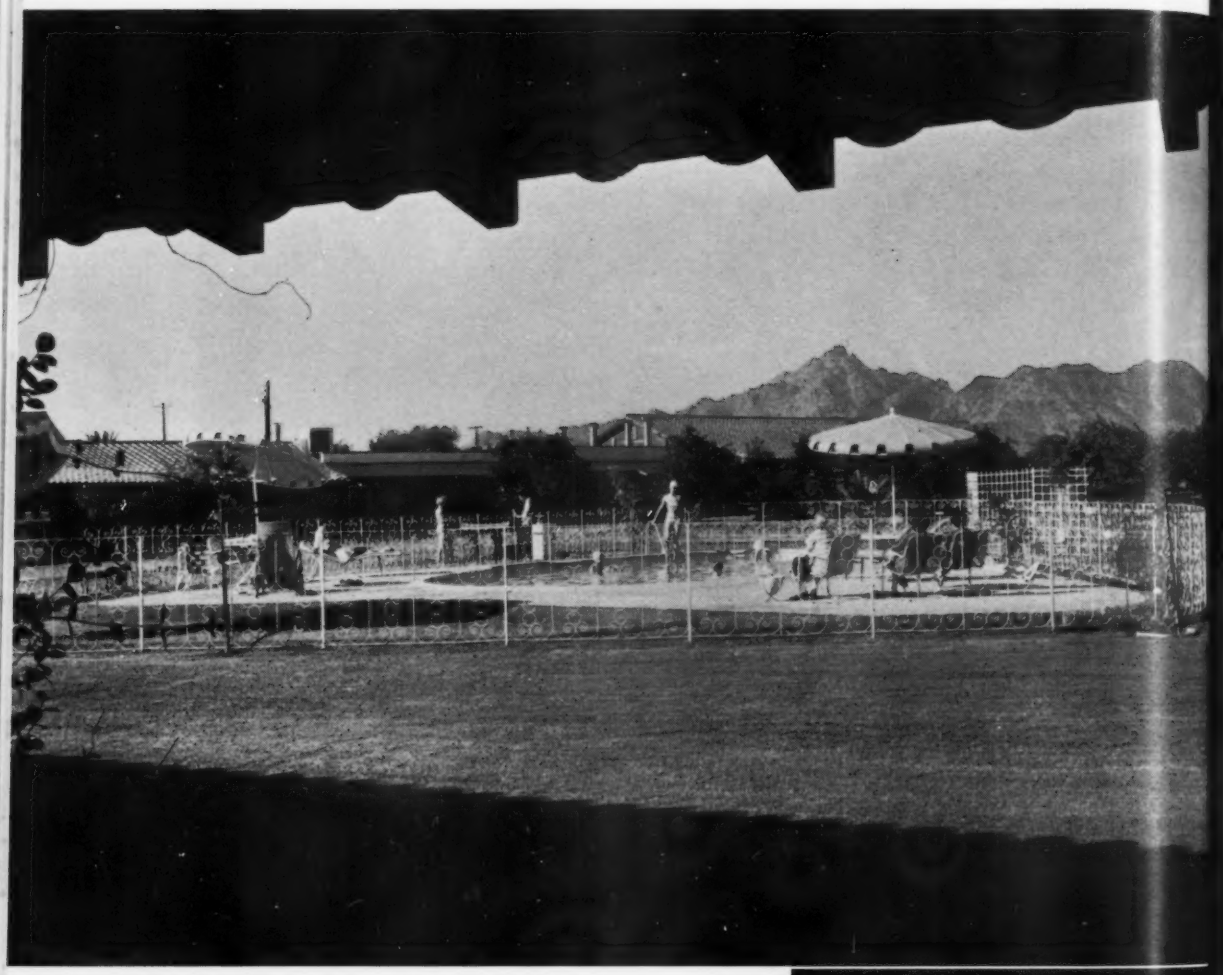
Squibb Quality – the Priceless Ingredient

'RAUDIXIN'®, RAUTRAX® AND 'NATURETIN'® ARE SQUIBB TRADEMARKS.

Located in the heart of the beautiful Phoenix citrus area near picturesque Camelback Mountain, this hospital is dedicated exclusively to treatment of psychiatric and psychosomatic disorders, including alcoholism.

Facilities include:

- ☆ Spacious, year 'round outdoor recreation area
- ☆ Heated swimming pool
- ☆ Modern, comfortable rooms



- Open medical staff
- 55 bed capacity
- Ratio of more than one registered staff nurse to every two patients
- All rooms air-conditioned
- Spacious grounds cover ten acres
- Licensed and approved by Arizona State Department of Health
- Member of:
  - American Hospital Association
  - Arizona Hospital Association
  - Association of Western Hospitals
  - National Association of Private Psychiatric Hospitals

Camelback Hospit

5055 North 34th Street
CRestwood 7-7431
PHOENIX, ARIZONA
OTTO L. BENDHEIM, M.D., F.A.P.A., MEDICAL DIRECTO

You see an improvement within a few days Thanks to your prompt treatment and the smooth action of Deprol, her depression is relieved and her anxiety and tension calmed – *often in a few days.* She eats well, sleeps well and soon returns to her normal activities.

Lifts depression...as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety...rapidly and safely

Balances the mood – no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient – *they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation – *they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety – both at the same time.

Acts swiftly – the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly – often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

Acts safely – no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function – frequently reported with other antidepressant drugs.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. **Supplied:** Bottles of 50 light-pink, scored tablets. Write for literature and samples.

▲Deprol▲®

WALLACE LABORATORIES / *Cranbury, N. J.*

The President's Page

The Physician and the Two Cultures

Lindsay E. Beaton, M.D.

Lindsay E. Beaton, M.D.

In this, medicine's busiest century, the physician may find himself additionally called to an unexpected non-professional mission, to reconcile a crucial cultural conflict. The harried doctor may be excused for impulses to mayhem at the thought that some dreamer has conjured up another social assignment for him. His energies are strained by the practice of his profession and by the effort to keep up to date scientifically. It is a nice piece of work just to anticipate what will be reported in *Time* or the *Reader's Digest* before the patient bursts in with those authorities clutched in eager palm. Nor is it enough that the physician be a trained and artful healer; his national leaders also commit him to the public forum, first carefully picking the right political coloration for him. He is urged on all sides and by all hands to give at least his weekends and evenings to civic causes, to be a part-time educator of medical apprentices and the candidates for the paramedical health vocations, and to be at the beck of the courts. He is tempted by siren voices to spend more time acculturating himself to a new outlook with the "great books", and at the same time *Medical Economics* hammers him with the necessity of expertise in the security markets, office management, tax shelters, and second mortgages. Now someone has whistled up a new and indeterminate job for him. He cannot be blamed for asking in exasperation if he cannot be left alone to care for the sick.

Despite great feeling for the justice of this latter viewpoint, it must yet be acknowledged that the physician has always been the exemplar of the whole man. The day he confines his interests to the bedside, to the laboratory, or to the operating room, he becomes only a superlatively skilled technician and less than the force he should be in the lives of his patients and in the larger world. His role cannot shrink; it must expand; and there may now be special lines first to be spoken. In one of his editorials in the magazine *M.D.* Félix Martí-Ibáñez pointed out the paradox of the physician, the intellectual man forced by the exigencies of his calling to become the man of action. By definition he is the pra-

titioner, the practical one, in whose hands lie the most important of his fellows' material concerns. Yet his whole profession is rooted in theory, and the good clinician always relies ultimately on the formulations of medical science. This dichotomy is the clue to and promise of the guidance he may give in uniting science and art, the pragmatic and the abstract, in an intellectually sundered age. Hans Zinsser once wrote, "Medical training has for certain types of people a ripening influence that no other field of education possesses. Aside from the habits of hard work that it demands, it embraces a broad survey of the biological field, enforces a considered correlation of the fundamental sciences, and, on the human side, brings the thoughtful student face to face with the emotional struggles, the misery, the courage and cowardice, of his fellow creatures — to say nothing of the familiarity it gives him with sociological conditions, vice, crime, and poverty. There is in it a balanced education of the mind and spirit, which, in those strong enough to take it, hardens the intellect and deepens the sympathy for human suffering and misfortune."

The stimulus for this homily came from Sir Charles P. Snow, who first outlined the concept that animated it in an article in the *New Statesman* in 1956 and brought his thesis to wider attention in the Rede Lecture given at Cambridge in 1959, subsequently published as "The Two Cultures and the Scientific Revolution". This work is being recognized as one of the signal insights of the century. Snow sees "Two polar groups: at one pole we have the literary intellectuals, who incidentally while no one was looking took to referring to themselves as 'intellectuals' as though there were no others. Literary intellectuals at one pole — at the other scientists, and as the most representative, the physical scientists. Between the two a gulf of mutual incomprehension — sometimes (particularly among the young) hostility and dislike, but most of all lack of understanding. They have a curious distorted image of each other. Their attitudes are so different that, even on the level of emotion, they can't find much common ground." Snow himself concedes that there may be more than the two cultures. He seems to think that a third point of view might be represented by the sociologists, social psychologists, and cultural anthropologists. Others might reasonably make a case for a third culture, or a fourth, in the industrial-managerial sector of our civilization. No matter; the crucial cleavage is clear. Snow is convinced that the scientists have "the future in their bones" but at the same time acknowledges that, "It is the traditional culture, to an extent remarkably little diminished by the emergence of the scientific one, which manages the western world." He notes the fact that non-scientists have little conception of the modern theoretical edifice of the physical world and sadly remarks that the conceptual separation between the scientists and the literary intellectuals is widening. In his memorable language, he says, "Thirty years ago the cultures had long since ceased to speak of each other: but at least they managed a kind of frozen smile across the gulf. Now the politeness has gone, and they just make faces."

There must be a repair of this social divorce; there must be a bridge between the two cultures. As Warren Weaver said, in introducing Sir Charles, at the 1960 Annual Meeting of the American Association for the Advancement of Science, "We must rejoin the pieces of our fractured culture, must restore the unity of the world of the mind." It is an unaccustomed expectation of the particular and perhaps unique position in society of the physician, who certainly does not usually regard himself as an intellectual at all, that is here advanced as a possible link in this reunion. Historically the doctor has in himself coupled the two cultures. He has been at once the contemplative thinker of the laboratory and the consummately skilled artisan of the operating table, at once the stringent theorist and the intuitive and artistic empiricist. His success depends equally on acquaintance with abstruse knowledge and on perception of the personal needs of the sick. The physician, the healer, may show the way to healing a grievous social wound, because he has closed its individual counterpart in himself.

First of all, the doctor's way embodies both art and knowledge because it daily quickens his own sense of what can only be called the beauty of science. In the Rede Lecture, Snow referred to the scientific picture of the natural universe as "in its intellectual depth, complexity, and articulation, the most beautiful and wonderful collective work of the mind of man." And in his address last year before the AAAS he mentioned

the "esthetic joy" of working in science, "exactly the same as the satisfaction one gets from writing a poem or a novel, or composing a piece of music." Graham Greene once said that G. H. Hardy's book, "A Mathematician's Apology," was the finest description of artistic experience ever written. This exhileration is what the scientist feels when he speaks of the "elegance" of his experiment. This is the exaltation that Edna St. Vincent Millay wrote of:

"Euclid alone has looked on Beauty bare.
Let all who prate of beauty hold their peace,
And lay them prone upon the earth and cease
To ponder on themselves, the while they stare
At nothing, intricately drawn nowhere
In shapes of shifting lineage; . . ."

Even the most respected voices of literature have on occasion recognized the esthetic magnificence of the scientific vision. Gilbert Murray, the greatest of modern classicists, in his presidential address to the Classical Association, given interestingly enough in 1918, the year after Osler had been president, an address later printed under the title of "Religio Grammatici," said of the scientific tradition, "It gives man an escape from the world about him — an escape from the noisy present into a region of facts which are as they are and not as foolish human beings want them to be; an escape from the commonness of daily happenings into the remote world of high and severely trained imagination; an escape from mortality in the service of a growing and durable purpose, the progressive discovery of truth." The physician, privileged with every patient to conduct an experiment in nature, often with gratifying outcome, adds the observation of the beauty of nature's workings to the reward of assisting a fellow human being in distress or danger, to make possible moments of the most exquisite personal joy.

The second reason for the doctor's ability to combine the science and the culture of his day has been that he has been the accepted intimate of the artist and the scholar. He has in the past been considered a learned man himself, and he has naturally become the valued friend of philosophers and men of letters. In the America of the last generation, when H. L. Mencken wanted to spend an evening with the music of his beloved Brahms and a bottle of Schloss Johannisberger, it was the good medicos of the Johns Hopkins that he sought as companions. May it always be so.

There is a rich vein of literary creativeness in medical men. Among the many famous physician writers have been Anton Chekhov, John Keats, Friedrich von Schiller, and the delightful John Brown of Edinburgh, whose charming tales are unfortunately out of reading fashion. One could cite many others: Thomas Linacre, one of the leading humanist figures of the English Renaissance; or the Swiss, Albrecht von Haller, who was poet and physiologist and botanist and, according to the medical historian Garrison "the greatest systematist after Galen." In our country, too, some men have been both authors and practitioners, as were Oliver Wendell Holmes the elder, and S. Weir Mitchell. Perhaps the most illustrious of them all was that ribald genius, Francois Rabelais. As William Bickers has pointed out in a recent article in the J.A.M.A., he was to the literature of France what Shakespeare was to England, Dante to Italy, and Cervantes to Spain. Yet all of his life Rabelais was a busy clinician, a popular lecturer in anatomy, retained as physician by some of the great men of his day. His memorial statue at Chinon shows him, not in cap and bells, but in his doctor's biretta and his academic robe.

One could read endlessly from the long roster of physicians who have been powerful in determining the intellectual substance of their times, from Paracelsus to Albert Schweitzer. Some of the names are surprising, for one does not think of these men, so eminent in other capacities, as physicians. Such were Copernicus, Maimonides, the musician (and chemist and count) Borodin, and, in America, Benjamin Rush. Galen was a prominent social critic as well as a doctor. In all these men medical education and indoctrination probably had much to do with their leadership in other fields. The association of medical science and philosophical aptitude has been too frequent to be disregarded. Leonardo da Vinci and Goethe were not doctors, but both had medical interests. Descartes was not a physician, but he was trained at Amsterdam in anatomy and physiology, and he was able in the fullness of his genius to forecast the reciprocal innervation of muscle, the necessity of inhibition in the performance of the motor act, and the nature of reflex response.

In our own day the venerable association of the doctor with creative writing continues. One of the country's foremost poets, Carlos Williams, is a practicing pediatrician. And the late Merrill Moore, who probably composed more sonnets than any man who has ever lived, was an active and distinguished psychiatrist. Sherrington, Osler, Cushing, and John Fulton were not inconsiderable literary figures. And then there are the lesser contributors, not to be underestimated, such novelists as Deeping, Cronin, and Frank Slaughter, doctors all, or a poet like Oliver St. John Gogarty, the original of Joyce's Buck Mulligan.

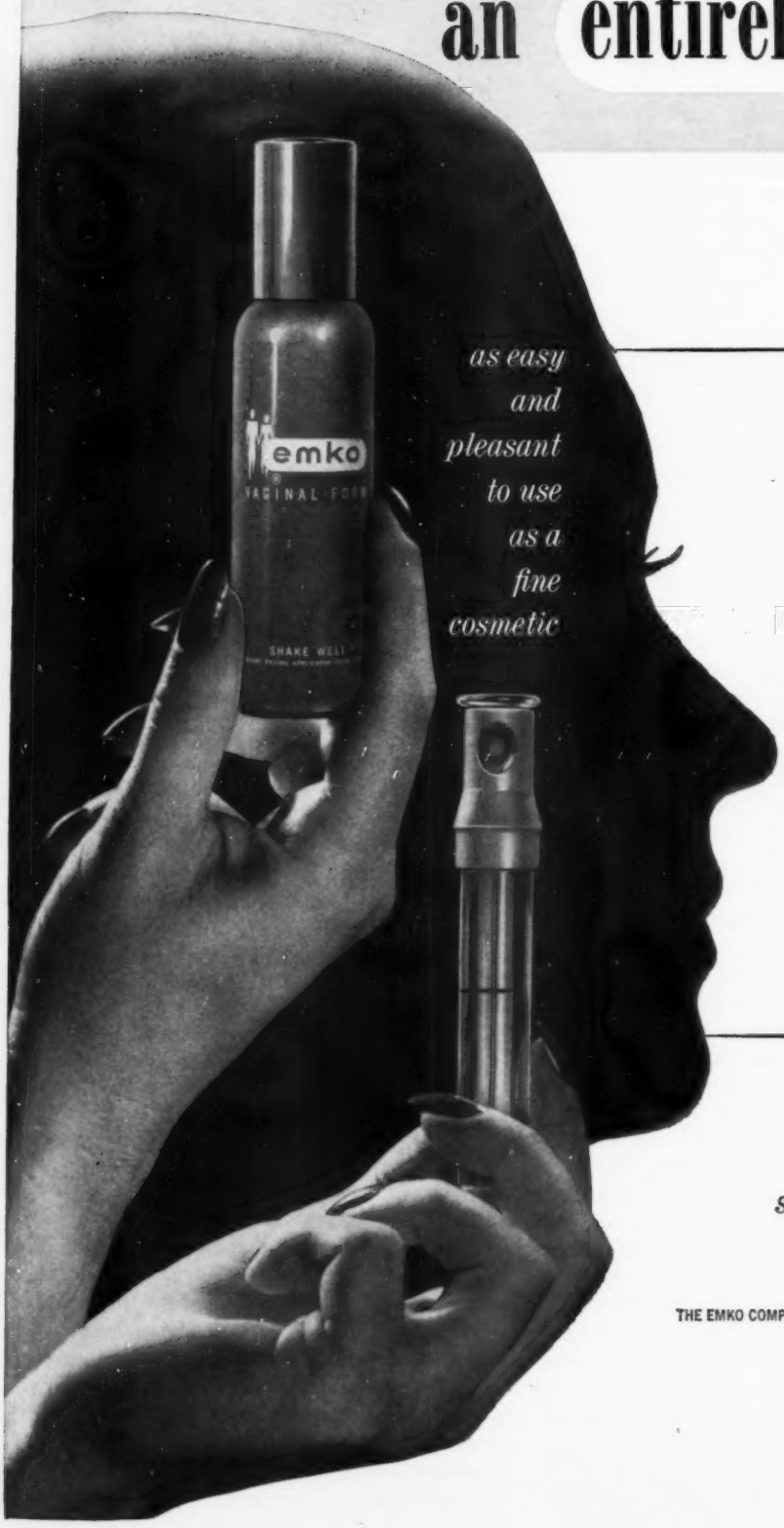
There are finally physicians who put their mark on the thought of the day, not through their accomplishments in literature, or philosophy, or art, but through the seminal force of their own medical or scientific ideas acting in a wider realm or on events. Perhaps the discovery of this continent can be credited indirectly to a physician, Paolo del Pozzi Toscanelli, whose geographical studies pointed Columbus across the Atlantic. Particularly have some men who have been concerned with psychological medicine molded the basic thinking of the intellectual community. Geronimo Cardano, the father of "modern" psychiatry, was such an influence, as was Johannes Weyer, who laid the rational foundation for the abolition of witch-hunting. In more recent times John Locke, Pavov, and most importantly Freud are physicians who have changed the patterns of opinion of an age. Freud must be regarded as the equal of Newton or Darwin in causing an intellectual revolution that has changed intelligent thought irrevocably and for all time.

The doctor today pictures himself as more of a scientist-entrepreneur than an intellectual, as that term has latterly been applied. By his undergraduate and medical education he is oriented toward physical and biological science, and he receives as well an impetus toward experimentation. It has been estimated that 50 per cent of the students in modern medical schools are involved to some extent in research. Properly the investigative attitude thus fostered is brought forward into the years of clinical practice, and one of the pleasures of the doctor's daily round is the opportunity for the observation of the experiment in nature that every patient provides. No one would wish ever to reduce the physician's interest in the sick or his research inclinations. One may ask, however, if there has been an attendant, and unnecessary reduction in his artistic and other creative impulses. This is hard to answer. There is evidence to the contrary — the art shows that grace A.M.A. and State Association meetings, the symphony orchestras and string quartets manned by physicians. But more deeply meaningful are the strong opposite pressures on the doctor to adopt the aims and ethic of business, to form an allegiance with the commercial community, particularly with its most conservative sector. Medicine has already been pinned to a right-wing political position, so that the A.M.A. inevitably finds itself on every issue in league with the National Association of Manufacturers, the U.S. Chamber of Commerce, and the National Grange. The doctor's most engrossing and ancient identifications lie elsewhere, with the goodly company of scholars, poets, and artists, with whom he has traditionally been allied, with whom he has traditionally spent his leisure hours, whose concerns he has so often made his own.

One who truly loves his profession hates to see physicians become nothing more than the business men of biological science, the politicians of medical care, the technicians of the sickroom. Doctors ideally are at once practical and intellectual, tough-minded and sensitive, obedient to the mystery of their art and the lofty exactions of their science. The alchemy of the discipline turns both art and science into action in behalf of the suffering. It may also transmute them into a specimen solution for the divisive intellectual dualism of the age.

The physician may be called, in this bewildered 20th century, to return to his historical place and become again the bridge between art and science, and between the life of intellect and the life of practical service. He has long shown how in one man this synthesis can be fulfilled. Perhaps now he can illustrate a necessary reintegration for society. Using the therapeutic principle of example he may show the way to others who have intrinsically an equal capacity for the same conciliation. Thus will he prove again that he is the whole man, who not only cares for his sick or injured brother but would also seek to bind the wounds of the society in which he lives.

an entirely differen



as easy and pleasant to use as a fine cosmetic

EMKO BACKGROUN

Joseph Sunnen, an inventor and ind trialist widely known for his philanthro work, became concerned about the s ous economic problems caused by high birth rate in Puerto Rico. There an obvious need in that country fo contraceptive more acceptable to people than the standard creams jellies.

He suggested combining a proven sp micidal agent with an aerosol foam a basic carrier. The resulting prod Emko Vaginal Foam, proved simple use, free of greasiness, and economi

For the past three years, Emko has b made available in Puerto Rico thro the Family Planning Association and Government Department of Health. proximately 35,000 families are using it.

The success of Emko Vaginal Foam Puerto Rico, and the support it has ceived from the many people who h visited there, led to the decision to m Emko available to doctors and their tients in the United States.

NOW YOU C
PUT YOUR PATIENT'S MI
AT EASE... WITH EM

stocked by local drug sto

THE EMKO COMPANY • 7912 MANCHESTER AVE. • ST. LOUIS 17

pproach to birth control

emko®
VAGINAL FOAM*

using principles never before applied to contraceptives

• THE FIRST AEROSOL FOAM!

The volume of the material is expanded ten times to create A BLOCK OF FOAM.

• THIS BLOCK SEALS THE CERVICAL OS.

Only a FOAM can successfully serve this diaphragm-like function . . . without interfering with normal intercourse or reducing sensory contact.

• A HIGHLY EFFECTIVE PROVEN SPERMICIDE

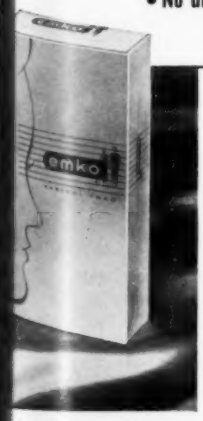
EMKO Vaginal Foam contains the widely used and thoroughly proven spermicide Nonyl phenoxy polyoxyethylene enthanol 8.0% and Benzethonium Chloride 0.2%.

The total surface area of each bubble of foam contains this highly effective spermicidal combination. As the sperm attempts to penetrate the block of foam, its zig-zag course exposes it constantly to this very large contact area created by the bubbles.

Thus, Emko Vaginal Foam assures maximum spermicidal exposure . . . with a minimum weight of material.

• No douching . . . it vanishes after use **• Absolutely no greasiness or "after-mess"**

• No diaphragm . . . the foam does the blocking **• No irritation for husband or wife**



MARGARET SANGER RESEARCH BUREAU/INTERIM REPORT

In the Contraception Service of the Margaret Sanger Research Bureau, through October 31, 1960, Emko had been used from one to 22 months by 362 patients, with a total of 12 unplanned pregnancies. Seven of the pregnant patients admitted irregularity in the use of Emko.

Two planned pregnancies had also occurred after stopping the use of Emko.

A. J. SOBRERO, M.D. *Research Director*

*PAT. NO. 2,943,979, OTHER PATS. PEND.

paf

DOUCHE POWDER

Buffered to control a normal vaginal pH.

P.A.F.'s low surface tension increases penetration into the vaginal rugae and dissolution of organisms including trichomonas and fungus.

P.A.F.'s high surface activity liquifies viscus mucus on vaginal mucosa, releasing accumulated debris in the vaginal tract.

Non-irritating, non-staining.

No offensive after-odor.

CASE

Douche Powder

For Refreshing Feminine Daintiness

G. M. Case Laboratories — San Diego, Calif.

It's your professional privilege to replenish your ranks . . .

Give to medical education through AMEF

AMEF

American Medical Education Foundation

535 N. Dearborn St., Chicago 10, Ill.

A STATEMENT OF POLICY FROM THE PROFESSIONAL HEARING AID CLINIC:

During the many years of its existence, the hearing aid industry has, quite frankly, just grown. It has been essentially more of a business than a profession. We of the PROFESSIONAL HEARING AID CLINIC feel that it is time that a general statement of policy be made by a hearing device distributor in keeping with ethical standards that are such that a doctor may recommend its services with confidence. For this reason, the following policy has been developed by the PROFESSIONAL HEARING AID CLINIC:

A STATEMENT OF POLICY TO THE MEDICAL PROFESSION:

1. This company will cooperate with the medical profession. A report on every instrument sold will be evaluated by a doctor.
2. All hearing instruments sold to patients referred by doctors will carry an unconditional money-back guarantee of satisfaction.
3. In the event of a sale to a referred patient, an audiometric report will be sent to the referring doctor for his evaluation of the recommended fitting.
4. A copy of the audiometric report will be furnished to the referring doctor for his files.
5. An honest and realistic approach will be taken in the sale and fitting of each hearing instrument. A device will be recommended only in cases where there is definite need. Our guarantee is an assurance to the recommending doctors that this policy will be followed.
6. The hearing instrument recommended must suit the patient's individual requirements, including the definite policy of keeping the cost within the patient's financial requirements.
7. The doctor and the patient are to be assured of competent examination, fitting, service, and training in the use of the instrument.
8. In the event of any question arising from the sale of an instrument, the referring doctor's advice will be our guide.

49 West Thomas Road • CR 7-0232

Editorials

The Use And Abuse Of Cosmetics

As the sale of cosmetics increases annually, the extravagant claims by the makers of these preparations increase also. Consequently, a report on these products relevant to advertising claims is timely. Because of high-pressure advertising methods, the public does not know what can be honestly expected from modern cosmetics; that is, whether they are "miraculous" or just beauty aids. Since all cosmetics are certainly not harmless authoritative information from practicing physicians dealing with cosmetic problems should be given at this time.

Among the cosmetic preparations that have been misrepresented in the past are hair dyes and color restorers, eyelash and eyebrow dyes, hair growers and restorers, dandruff cures, hair

ARIZONA MEDICINE

Journal of

The ARIZONA MEDICAL ASSOCIATION, Inc.
AND
MEDICAL SOCIETY OF THE
UNITED STATES AND MEXICO

VOL. 18 APRIL NO. 4

Darwin W. Neubauer, M.D. ..... Editor
Louis G. Jekel, M.D. ..... Assistant Editor

EDITORIAL BOARD

Andre J. Bruwer, M.D. — R. Lee Foster, M.D.
Richard L. Dexter, M.D. — Clarence L. Robbins, M.D.
Juan E. Fonseca, M.D. — Leslie B. Smith, M.D.

ASSOCIATE EDITORS

Charles W. Elkins, M.D. ..... Neurosurgery
Jesse D. Hamer, M.D. .... American Medical Ass'n. & Legislation
A. K. Hansen, M.D. ..... Ophthalmology
John Kennedy, M.D. ..... Historical Section
Robert Lacock, M.D. ..... Ob-Gyn.
William B. McGrath, M.D. ..... Neuro-psychiatry
Augusto Ortiz, M.D. ..... Medical Society of U. S. and Mexico
C. Thomas Read, M.D. ..... Chest Surgery
Wallace A. Reed, M.D. ..... Medical Economics
Gerd Schloss, M.D. ..... Pathology
Paul L. Singer, M.D. ..... Genito-Urinary
Alvin L. Swenson, M. D. ..... Orthopedics
William G. Ure, M.D. ..... Tuberculosis
Roger F. White, M.D. ..... Pediatrics

ADVERTISING AND SUBSCRIPTION OFFICES
Paul R. Boykin, Business Manager
1021 Central Towers, Phoenix, Arizona
Eastern Representative
A. J. Jackson, President
State Medical Journal Advertising Bureau
510 N. Dearborn St., Chicago 10, Illinois

"The material in this journal is not copyrighted. We would like to ask that anyone using material from it note the previous publication in ARIZONA MEDICINE."

CONTRIBUTIONS

The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules should be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English or Spanish, especially with regard to construction, diction, spelling and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Exclusive Publication — Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notified within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
7. Reprints will be supplied to the author at printing cost.

Editorials of Arizona Medicine are the opinions of the authors and do not necessarily represent the official stand of The Arizona Medical Association. The opinions of the Board of Directors may be sought in the published proceedings of that body.

removers, deodorants, lipsticks, cleansing creams, face lotions, hand lotions, vitamin and hormone creams, freckle removers and skin bleaches. This was ably brought to the attention of the public by Doctor Austin Smith in his article "Cosmetic Facts and Fancies" which was in Today's Health Magazine and has been reprinted from time to time. Although most harmful preparations have been eliminated from the market, the incidence of dermatological and scalp problems is definitely on the increase due to the widespread use of cosmetics highlighted by the current popularity of hair dyes, bleaches and hair sprays.

The most troublesome problem today, as in the past, is the misleading and ambiguous terminology used in advertising. For example, to speak of a cosmetic as a hair color restorer is considered false under the Federal Food, Drug and Cosmetic Act, since once hair has turned grey there is no true hair color restorer; and as yet, there is no true hair grower. As to the flood of vitamin and hormone "rejuvenating" cosmetics — Doctor Howard T. Behrman, in his report on "Hormone Creams and the Facial Skin," has shown that there is no appreciable difference observed in a skin treated with hormone cream, the identical base without the hormone or a good commercial night cream.

The increasing number of women with alopecia seen in the past few years by dermatologists is appalling. It is definitely on the increase due principally to the demands on all women to keep fashionable. Frequent premanent waves and the use of strongly alkaline shampoos are two outstanding causes. The latter injures hair resulting in dryness and irritation of the scalp with follicular plugging. This, coupled with the too-frequent use of hair dyes and hair rinses, renders the hair lifeless and brittle. Although the "pony tail" hair style is not as popular as it was a year or so ago, there still is some use of longer hair fashions, which are not without danger. Certain coiffures, in particular the "pony tail", can cause alopecia on the sides of the scalp due to excessive tension on the hair shaft. Also the mechanical breaking of hair following the use of nylon brushes and metal curlers is a contributing factor. Occasionally, distressing alopecia is observed after a faulty cold-wave.

Generally speaking, most cosmetic preparations that are on the market today are satisfactory and safe. However, the dangers associated with the excessive use of hair dyes, bleaches and creams that are medicated — and therefore might sensitize — cannot be minimized. Many substances contained in some cosmetics are known to be frequent sensitizers.

On the whole, cosmetics should just be cosmetics; and estrogens, antibiotics, and other medicaments should be prescribed only when indicated, and *only by those who are competent to administer them.* Cosmetics are essentially beauty aids, although they are often useful in alleviating such conditions as a skin that is dry or chapped from exposure or improper cleansing, and to provide protection from excessive exposure to the sun and inclement weather. They cannot be expected to effect phenomenal physical changes when damage to the skin is due to dissipation, age, excessive exposure or disease. As Doctor Austin Smith so ably says "If the population learns what to expect from cosmetics and demands only the truth, the promoters of these products will offer the best possible products with only truthful advertising. Until that time purchasers will have to continue questioning considerable advertising nonsense."

Kenneth C. Baker, M.D.

TRAUMA AND ITS AFTERMATH

A simple trauma may be followed by a complicated disturbance or by a chain of complications. A simple antecedent must logically have a proportionately simple consequence. (A broken arm can hardly "result in" alcoholism or ulcerative colitis.) If there appear to be complicated effects, then one must look for complicated causes.

Of these, the least imponderable is the trauma itself.

The trauma may seem to have been a necessary factor (a trigger) in the disability. It must not be inferred that the trauma is therefore a sufficient "cause" of the disability. All the other antecedents are necessary and causative if the consequences are more severe and widespread and lasting than the trauma would explain.

It is never a matter of one cause and many effects. It is really a question of reciprocal and synchronous relations.

The readiness of the individual to over-react

may be the largest factor – the sufficient reason – in his over-reaction. (If a predisposed individual has an attack of asthma after eating a chocolate, his inherent allergies at some point became more persistently "causative" than the isolated incident of ingesting chocolate.)

About this readiness to over-react, the physician may not have intimate knowledge. But he can assess the relative weight of the traumatic factor, – no matter how involved the case nor how numerous the contributing or complicating factors. He has the description of the accident and injury; he has his clinical and laboratory findings; he has the objective opinions of his consultants. And, most important of all, he has his medical knowledge of trauma and its effects. In a given case he can say that the factor of trauma contributed no more than an estimable percent of the entire and complicated etiology of the disability.

Duration is a significant criterion. Taking into consideration the severity of the injury and any psychologically distressing aspects of the accident, the physician should be able to predict the approximate duration of the effects. His knowledge of trauma qualifies him, be it with foresight or hindsight. Persistence of complaints beyond that reasonable interval, or beginning spread of complaints without structural explanation, should alert the physician. He should promptly require of himself and of the patient to recognize that other "causes" are at work.

Neither should the physician be influenced by the stubborn sincerity of the patient's wish to attribute all of his subsequent difficulties to a simple and single trauma.

Some of the patient's difficulties may prove to be psychoneurotic, – conversion hysteria or hypochondrias, is for example. By autosuggestion he may have convinced himself that he has much more disability than the doctors can demonstrate. On account of this conviction he may fail to return to work of which he is physically capable. He may be impressively sincere and honest in his conviction. But if he is mistaken, it is his responsibility to permit convincing medical evidence to correct his mistake. Unwillingness to relinquish the notion that he is disabled does not alter the fact that he is not.

One might protest that a psychoneurotic is not only unwilling but unable to admit the evidence of his real capability and make use of it.

But the concept of such inability in neurosis is not acceptable. All our learning processes assume the ability of the mind to be persuaded by reasonable evidence. It is ultimately this ability to change one's mind that makes psychotherapy worthwhile. The difficulty of the task, of course, is a measure of the resistance, – the unconscious motives to reject insight and avoid the realistic appraisal of one's condition. If an erroneous conviction (of disability, in this discourse) were beyond the ability to be corrected, it would be an actual delusion. And delusion is beyond the symptomatology and scope of neurosis. Neurosis is rather an unwillingness or diswillingness than a disability.

Let it not be deduced that neurosis can only be overcome by psychotherapy or that all neurotic reactions warrant psychological or psychiatric attention. The greatest percentage of such reactions prove self-correcting, self-limiting. Insights and renewed motivations and wholesome influences are to be found in the patients' minds and in their own life situations and not just in the psychiatrist's office.

Within the context of this essay, our argumentative earlier comments, however, precious, are (please) not to be construed as intrusions into the legal considerations of compensability. We are only pointing out that the attending physician can and must try to isolate and evaluate the traumatic factor in a complicated disability. He does not have to be an expert on all the other reciprocal and synchronous elements in etiology. But he does have to be mindful of their efforts and he has to help his patient to become aware of them.

Everything went wrong today. And, tonight when I got home, my daughter's wearing lipstick threw me into a rage. Was it her fault? Was she the cause? Well, it wouldn't have happened if she hadn't worn lipstick. Ah, this is not healthy reasoning. My peace of mind (freedom from neurotic reactions) surely requires a more honest and realistic re-appraisal of the event.

William B. McGrath, M.D.

FOUNDATION FOR MEDICAL CARE

The success of the San Joaquin County (California) Medical Society's Foundation for Medical Care has been so outstanding that it de-

serves further investigation by this society.

In six years they have gone far beyond the original goal of warding off closed practice plans. It has helped solve problems of grievances, bill collections, emergency calls and general relations with the people of San Joaquin Valley. "It has meant comprehensive medical care within the reach of all."

Dr. Donald C. Harrington, president of the foundation states, "It provides a mechanism for quality control of medical care outside of hospitals, something thus far lacking in American medicine. It gives us a check on the continuing education of doctors by letting us know what procedures and treatment they are using. We're just beginning to get into these areas, actually, but the mechanism is there and we intend to use it. One of the surprising things to many doctors is that the program has actually meant higher fees for most doctors. We need the higher fees to bring in the best-qualified doctors."

This plan undoubtedly does not solve all of the problems of American medicine as its proponents would suggest, but it is taking an initial positive step. This could be a step forward rather than another retreat to another unprepared position. The plan deserves investigation.

Darwin W. Neubauer, M.D.

LETTER TO THE EDITOR

February 14, 1961
Tucson, Arizona

Dear Editor:

The article, "Doctor and Lawyer," by Dr. Lindsay E. Beaton, in *Arizona Medicine* makes official the fact that physicians not only do not understand the lawyer, but that they have a thinly disguised suspicion and fear of them. This feeling is not reciprocated by the legal profession. The "small area of common understanding" of which you speak is created, not by the nature of the lawyer, but by the nature of physicians, who, as I hope to develop in this letter, have been inculcated with certain ideas, and have suffered certain deficiencies in training, which cause this unilateral misunderstanding.

In the first place, it is hardly accurate to treat the two professions as being so similar that there is a comparison between them.

The American Bar is an amorphous group, compared with the American Medical Association. Possibly 40 or 50 per cent of the lawyers in the United States belong to the American Bar Association, and while nearly every vicinity has its state or local association, in only a few states is there any requirement of membership.

Legal training does little to furnish discipline or a sense of solidarity. Despite the layman's belief to the contrary, polemics, dialetics and logic are rarely a part of the law curriculum, which is not much more complicated than the ordinary undergraduate course in history or economics. The LL.B. is conferred by many institutions after five years of training, only three of which are law school.

Whatever his pre-law training, after three years of law school the lawyer emerges full blown, legally qualified to practice law and to commence making those mistakes to which he will later refer as experience.

Once embarked in practice, only a very small percentage of lawyers find a niche as specialists. Some become trial men, some handle business affairs, a few go into such specialities as taxation, mineral law or patent law, but the great majority who remain in active practice can only be compared to the country medical practitioner of a century ago, both in training and in the varied inventory of the work at hand.

Outside of a few rather informal organizations, the average lawyer does not participate in or meet with members of a particular specialty which he follows, as do the doctors, and his interests are pretty well limited to solving, to the best of his abilities, the problems which are presented to him day by day by his clients.

Consequently, he would be most surprised to learn that he is considered by eminent authority to be "the architect of government, the deviser of the corporate structure of our economic life, and the arbiter of societal regulation"; he is reluctant to take responsibility for the acts of other lawyers or of the Bar as a whole, and he is not prone to get overexcited at criticism of the Bar because he feels that it doesn't apply to him.

The English Bar, on the other hand, was, when it first became fashionable to criticize lawyers, and still is, a tightly knit organization in which carefully selected members eat, study,

work and practice together. A criticism of a barrister is a criticism of the system, but a criticism of an American lawyer is, perhaps, a criticism of the lack of system which creates him.

The medical profession, on the other hand, is monolithic, being represented by the all-powerful American Medical Association, and buttressed by the various state medical associations which impose discipline and offer continuing technical training. Behind these associations lies a long, rigorous period of training, during which the American medical student, unlike the American law student, attends a medical school, lives in a dormitory with other medical students or in a medical fraternity house, and devotes his studies exclusively to the scientific aspects of his career, completely ignoring, and being excluded from, outside political, economic or sociological forces.

On completion of his medical school work, he becomes an intern or a resident and devotes from one to five more years working and studying in a hospital, still insulated from most outside influences.

From a technical point of view, this system is admirable, but, sociologically, it produces a strange breed of cat. Our doctor emerges upon the world after a period of nine to fourteen years of intensive education, during most of which his only contacts have been with other doctors, nurses and patients. If he has married during this period, he has probably married a nurse (I know of one lady who still refers to her husband as "Doctor").

The physician's associates during these years of young maturity, outside of his fellow doctors, are almost entirely confined to nurses, who are trained to regard him as a minor deity, or to patients and their relatives who are anguished or frightened and in no position to deal with the doctor upon an queal basis.

The entire system of the modern hospital organization is based upon this combination of discipline and awe, which was emphasized to me not long ago when I came upon a woman who was having some sort of a convulsion and took it upon myself to transport and deposit her at the emergency ward of a local hospital. It was the first time I had ever been to a hospital when I was not in pain, in fear, or in anguish, over the illness of a friend or relative; and when the nurse and intern refused to accept the woman, still vibrating, on the ground that I was not a doctor and could not admit a patient to the hospital, I was able to advise them serenely that the patient was their problem, not mine, whereupon chaos resulted.

In any event, our typical doctor emerges from his practical training after a period during which he has been fully insulated from the other normal people who make up the world he lives in. He has been living on an extremely limited budget for a long period of time, and he now demands, and justly so, ample compensation for his services.

It is at about this point that he first encounters the lawyer. His contemporary who took up law has, by this time, been out in the world of practice for several years, and the dew is off. Our doctor possibly encounters the lawyer in a business transaction wherein he seeks to invest some of his new and hard-won wealth and finds that the young lawyer of his age is sophisticated about such transactions while he, the doctor, for the first time almost since adolescence, is in a foreign field. He is uninformed, and therefore he is suspicious.

More rarely, the doctor's first encounter with the lawyer is in the courtroom. Here the young doctor is in for a shock, and one which may turn him against the legal profession permanently, for during the previous decade, his opinion on any subject has never been publicly questioned. True, older doctors or colleagues may disagree and correct him privately, but the nurses and patients are in no position to do so. Now the doctor has to defend his opinion in a court of law under the gaze of the judge and twelve jurors who are neither nervous, anguished nor frightened.

It is, understandably, a nerve-wracking experience, even though the attorney who is conducting the examination has little learning or skill in the subject as a rule, and is in no real position to dispute the doctor's opinions.

These two spheres, then, are the only areas on which the two professions meet on a professional basis, so that it is not strange that the area of common understanding is small.

By far the great majority of doctors, of course, have never been on the witness stand, and only relatively few of them have dealt professionally with lawyers in a business transaction. They are

most suspicious and fearful of lawyers. Even though their lawyer friends and golfing companions are decent though dull fellows, the doctors' collective image of the lawyer is the sly cuss one sees on television, contrasted with the image of the TV doctor.

This wordy preamble is necessary in order that the doctor may understand his own point of view and in order that his attitude toward the items in your bill of complaint can be explained.

Your first two charges, if that is not too strong a word, deal with the "rising frequency" of malpractice suits and the high verdicts in personal injury cases. These problems are so related that they must be dealt with jointly.

It is true, and a matter of the greatest concern, that jury verdicts have risen to astronomical heights, and as a consequence the amount of litigation has increased tenfold, because people with real or fancied injuries are seeking the pot of gold at the end of the rainbow.

You suggest that this is somehow the fault of the lawyers, although, as you point out later in your article, our system of judge and jury, for the determination of damages, has not changed in many years.

I should like to suggest that high verdicts can be charged almost entirely to the medical profession. Do not lose sight of the fact that in every personal injury case there is medical testimony, and that the amount of the verdict is based entirely upon such testimony, except in the case of amputations and other spectacular injuries. In my personal experience, most of the outrageous verdicts have been the result of medical testimony wherein the doctor deduces from subjective symptoms, impalpable and intangible injuries, which are all the more horrifying because they are invisible to the jury.

A few examples: Fifteen years ago a stiff neck as a result of an automobile accident was worth $3,000 or $4,000. At about that time I was startled to learn, while defending a lawsuit, that a plaintiff whom everyone thought had a stiff neck actually was suffering from a cervicobrachial syndrome. This was worth $15,00.

Ten years ago a plaintiff suffering from sacroiliac or sciatica could expect only a modest award. Now, as the victim of a herniated nucleus pulposus, he can command a verdict of $50,000 or more.

I have heard a learned psychiatrist, who shall be nameless, discourse on the stand on the possibilities of traumatic epilepsy resulting to an attractive young girl who had suffered a head injury and admit, only reluctantly, that no symptoms, including an encephalogram, indicated such a prognosis.

A railroad worker who was caught under a moving train but was extricated without injury and who lost about a week's wages, was given $60,000 on the basis of testimony that he was suffering traumatic neurosis because of the way he identified the shape of ink blots on cards (a fantastic thing which I believe is called the Rorshach test). The medical profession cannot escape this responsibility on the ground that, as you have so alliteratively put it, the doctor is the "patient's passionate partisan."

I have before me now material from two organizations patronized by plaintiffs' lawyers (one of them, "a Bar association of lawyers helping injured persons") which regularly sponsor institutes and conventions at which instruction is given by distinguished physicians in how to extract more money from defendants. Among the subjects to be discussed at such a meeting to be held in the next few months are: dermatology, neurology, neuropathology, neurophysiology, neuropsychiatry, neurological surgery, psychiatry and urology. I emphasize that the physicians who are to participate are perfectly reputable.

The odd thing is that it is almost impossible to secure defense testimony of any value. In twenty-five years of practice, I have been unable to find a single doctor who would look a jury in the eye and testify that the plaintiff was a malingerer, even though, in the safety of his office, he told me that such was his opinion, both before the trial and over cocktails afterwards. Yet a study of "whiplash injuries" published in the American Medical Journal a few years ago, declared that of 100 cases studied, 98 lost all significant symptoms after their cases were settled.

So the defense lawyer is not particularly sympathetic with the doctor's horror of malpractice suits. These are, after all, personal

injury suits too, and if groundless suits are brought and outrageous verdicts rendered, the physician has had a great deal to do with encouraging all types of personal injury litigation.

It should not be forgotten that malpractice suits are also based on medical testimony, and when a reputable doctor is willing to testify that the skill and care exercised by a surgeon does not meet the standard required in the community, a reputable attorney can hardly be blamed for presenting a client's case based on such an opinion.

As you have indicated, there is one class of malpractice case which does not require medical testimony. These are cases in which a surgeon has left a foreign object in the body of a patient, and under the doctrine of res ipsa loquitur ("the thing speaks for itself"), the Court is entitled to consider the surgeon's negligence without medical testimony. It is difficult to conceive how it can be argued that such conduct on the part of the surgeon is not negligence, but perhaps no more difficult than it is to argue that it is reprehensible for a lawyer to take such a case.

In your two primary arguments, there is room for debate, but in your next point, you go far into a field in which the doctor can have only the most academic interest and in which the two professions have no common concern. You refer to "pettifogging maneuvers" of attorneys and "clogging delay" because of a failure to "speed the clearance of court calendars."

Semantically, these are not attractive terms. They charge trickiness. The suggestion that lawyers, through trickiness, delay justice is recklessly false. There are many practical reasons why justice should be deliberate.

A physician should be the last to suggest that a plaintiff who has received a traumatic injury should appear in court while the blood is still fresh, so to speak, although the bloody bandages would surely enhance the verdict. A physician knows that a patient's condition, after many types of injury, is not static for many months. In the field of psychiatry years of treatment are sometimes required. So, premature trials would be most unfair to plaintiff and defendant alike. In Pima County, a case can be tried in six or seven months which, in many cases, is sooner than the parties are ready for trial.

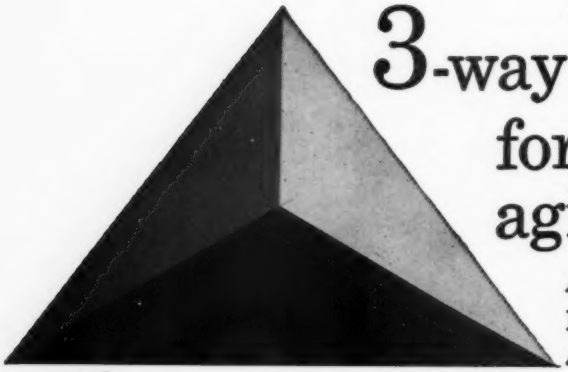
It is true that some college professors, ambitious judges, and theorists take the time to agonize over congested court calendars which do exist in a few places of exploding population, such as Maricopa County, but the experienced trial lawyer is well aware that this problem exists chiefly in the minds of the uninformed, who do not have to deal with the practical side of litigation.

Space does not permit detailed discussion of your other points, but the suggestion that the physician would prefer a single judge rather than a jury seems to fail to consider the proposition that a trial at law is an emotional process and one man, even though learned, is just as susceptible to emotion as a dozen — but there is some hope of checks and balances where a dozen are concerned. True, the jury system is imperfect, but it is probably no more imperfect than the human beings which it judges. The public as a whole, not lawyers alone, would welcome proposal of a better system.

Throughout your letter you return to the proposition that the Bar is responsible for all of our bad statutory law. True, there is a general misconception that most of our legislative bodies are composed chiefly of lawyers. An example of how incorrect this is can be found in the Arizona Legislature, the lower house of which has two lawyers (and two members of the healing arts) out of 80 members. The Bar is even blamed for making sodomy and other interesting hobbies illegal. I am sorry to say that I must confess that the Bar cannot take credit for this moral stand. In fact, adultery was prohibited by the Emperor Augustus in 5 B.C., some little time before the English Common Law.

To sum up, the average lawyer is an admirer of the average physician, particularly his excellent training and his high standards of practice. The fact that this admiration is not reciprocated may be attributed to the physicians' lack of understanding; and this lack will probably never be remedied. As Sam Johnson said, "I have found you an argument; I am not obliged to find you an understanding."

Sincerely,
H. C. Warnock



3-way support for the aging patient...

ASSISTS PROTEIN UPTAKE
IMPROVES MENTAL OUTLOOK
AIDS NUTRITIONAL INTAKE

NEW 1 small capsule every morning

GEVRESTIN®

Geriatric Vitamins-Minerals-Hormones-d-Amphetamine Lederle

Each capsule contains: Ethinyl Estradiol 0.01 mg. • Methyl Testosterone 2.5 mg. • d-Amphetamine Sulfate 2.5 mg. • Vitamin A (Acetate) 5,000 U.S.P. Units • Vitamin D 500 U.S.P. Units • Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate 1/15 U.S.P. Unit (Oral) • Thiamine Mononitrate (B_1) 5 mg. • Riboflavin (B_2) 5 mg. • Niacinamide 15 mg. • Pyridoxine HCl (B_6) 0.5 mg. • Calcium Pantothenate 5 mg. • Choline Bitartrate 25 mg. • Inositol 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate 50 mg. • l-Lysine Monohydrochloride 25 mg. • Vitamin E (Tocopherol Acid Succinate) 10 Int. Units • Rutin 12.5 mg. • Ferrous Fumarate (Elemental iron, 10 mg.) 30.4 mg. • Iodine (as KI) 0.1 mg. • Calcium (as $CaHPO_4$) 35 mg. • Phosphorus (as $CaHPO_4$) 27 mg. • Fluorine (as CaF_2) 0.1 mg. • Copper (as CuO) 1 mg. • Potassium (as K_2SO_4) 5 mg. • Manganese (as MnO_2) 1 mg. • Zinc (as ZnO) 0.5 mg. • Magnesium (MgO) 1 mg. • Boron (as $Na_2B_4O_7.10H_2O$) 0.1 mg. Bottles of 100, 1000.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Doctor's PEGBOARD RECEIVABLE SYSTEM

CUTS COSTS BY 50% OR MORE

(1) Statement —Receipt and/or Statement

(2) Patient Ledger

(3) Record of Charges & Receipts

OPERATION OF THE DOCTOR'S PEGBOARD RECEIVABLE SYSTEM

The basis of pegboard accounting is the adaptation of proven accounting machine principles to a hand posted system or manual system. By setting up the report of charges & receipts, patients ledger and statement-receipt on the collated writing board, we accomplish the posting of all three essential accounts receivable records by simply filling out the receipt by the use of one time carbon. The system is so easy and trouble free to operate, that the receptionist can easily keep her records current and still maintain her other duties.

CALL FOR TRAINED REPRESENTATIVE

Loftin's BUSINESS FORMS CO.
PRINTING - LITHOGRAPHY - ROTARY

ALpine 8-1609
3111 N. 29th Avenue
PHOENIX, ARIZONA

MAin 2-2466
604 N. 4th Avenue
TUCSON, ARIZONA

Serving Arizona

Health Needs

Since 1908

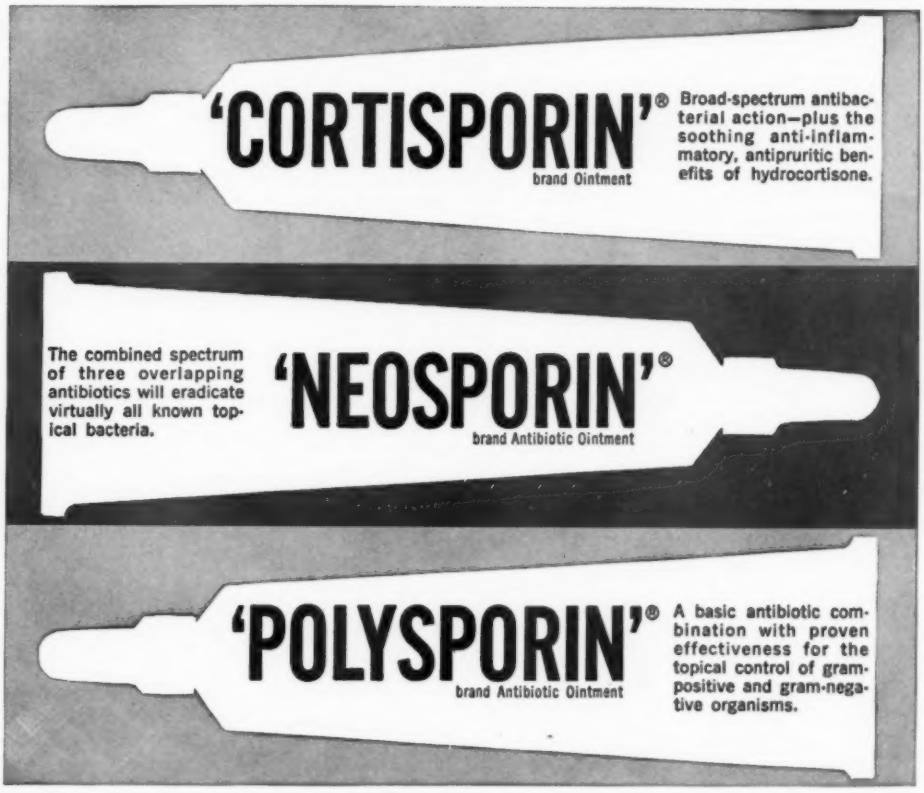
Ryan-Evans
DRUG STORES

Phoenix - Tucson - Scottsdale - Maryvale

Glendale - Sunnyslope - Tempe - Globe

Casa Grande - Miami - Wickenburg

'B. W. & Co.' 'Sporin' Ointments rarely sensitize . . . give decisive bactericidal action for most every topical indication

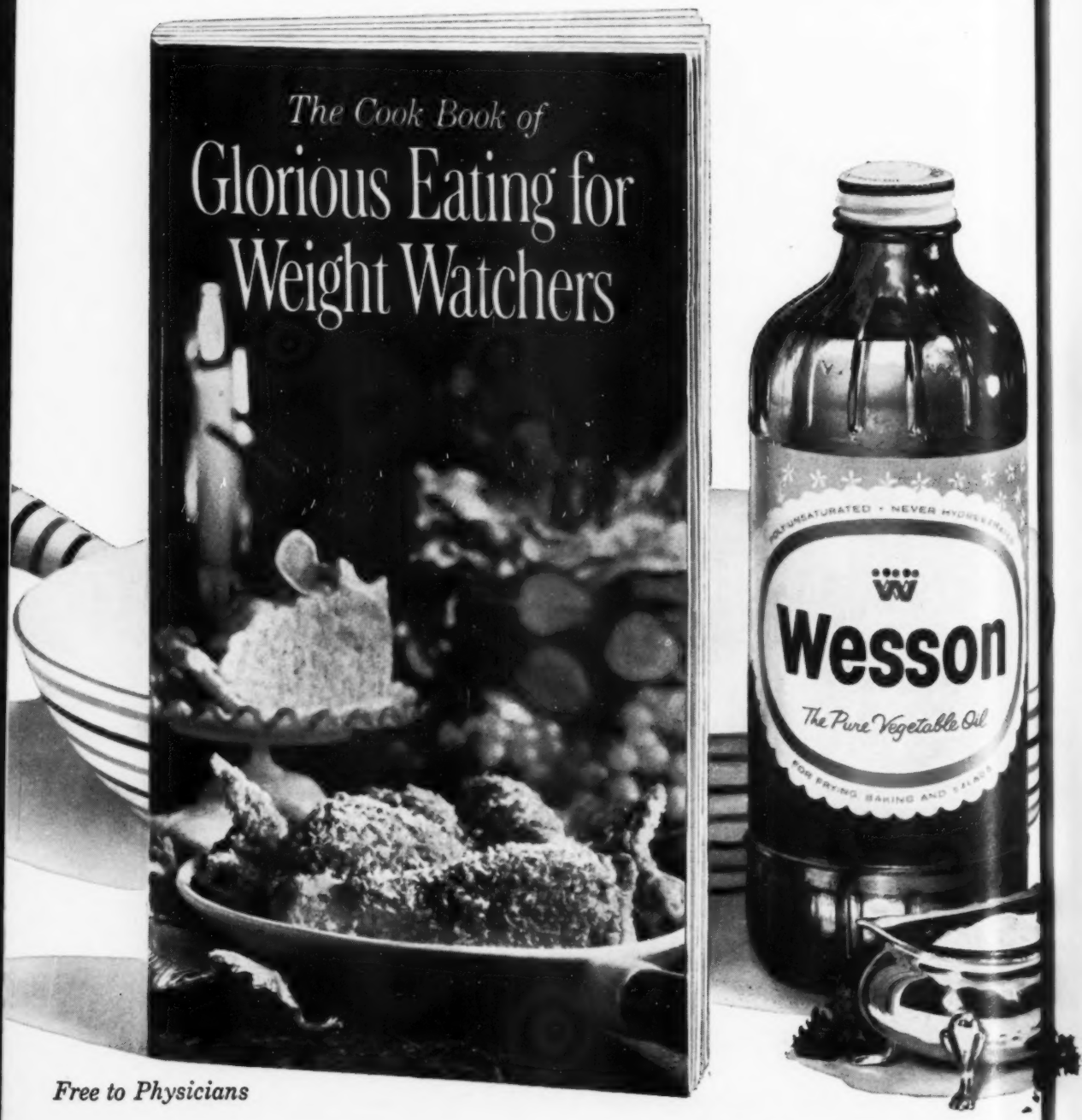

'CORTISPORIN'®
brand Ointment
Broad-spectrum antibacterial action—plus the soothing anti-inflammatory, antipruritic benefits of hydrocortisone.
The combined spectrum of three overlapping antibiotics will eradicate virtually all known topical bacteria.
'NEOSPORIN'®
brand Antibiotic Ointment
'POLYSPORIN'®
brand Antibiotic Ointment
A basic antibiotic combination with proven effectiveness for the topical control of gram-positive and gram-negative organisms.

Contents per Gm.	'Polysporin'®	'Neosporin'®	'Cortisporin'®
'Aerosporin'® brand Polymyxin B Sulfate	10,000 Units	5,000 Units	5,000 Units
Zinc Bacitracin	500 Units	400 Units	400 Units
Neomycin Sulfate	—	5 mg.	5 mg.
Hydrocortisone	—	—	10 mg.
Supplied:	Tubes of 1 oz., ½ oz. and ⅛ oz. (with ophthalmic tip)	Tubes of 1 oz., ½ oz. and ⅛ oz. (with ophthalmic tip)	Tubes of ½ oz. and ⅛ oz. (with ophthalmic tip)

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

A REALISTIC AID TO PROPER WEIGHT MAINTENANCE

At Last...New Cook Book Designed



Free to Physicians

Menus fulfill the recommended dietary allowances of the Food & Nutrition Board of the National Research Council.

gned to Prevent Overweight Through Better Eating Habits

Recipes and Menus with Satiety and Appetite Appeal in Mind

The Cook Book of Glorious Eating for Weight Watchers fills the long-felt need for a weight control plan that is workable for everybody in the family. Realistic regimens are built around good, natural, readily-available foods enhanced by delicious methods of preparation. In place of "fad diets" or tasteless formulas, it provides for truly appetizing meals. It teaches and encourages the development of the healthful eating habits that can prevent overweight, America's #1 Health Problem. This full-color cook book contains 100 pages—248 delicious recipes each with calorie counts. Complete menus are here at 3 calorie levels—1200, 1800, 2600. Calorie levels are related to *best* weights by sex, age, size and extent of activity.

Many diets fail because they are crash programs only temporary in effect. Other diets are unbearable because they are monotonous and tasteless.

The Wesson way is not a crash program. It offers calorie controlled menus with appetite appeal, variety and satiety in mind. They fulfill the recommended dietary allowances of the Food & Nutrition Board of the National Research Council.

All menus provide the proper amount of protein, carbohydrates, fat and the other essential nutrients. The principles of good nutrition are included to help the homemaker plan her own properly balanced, calorie controlled menus. With simple subtractions or additions to the same basic menu, each family member can be served delicious satisfying menus according to his individual needs.

Not a reducing manual. It should be explained that "The Cook Book of Glorious Eating for Weight Watchers" is a guide to the *prevention of obesity*. Its publication marks the first time that a food manufacturer like Wesson has taken so important a step to help combat this serious public health problem.

Copies for physicians. "The Cook Book of Glorious Eating for Weight Watchers" is being offered to the general public. If you would like a copy for yourself, together with forms to enable patients to obtain their own copies, please fill in coupon below.

Note: *Please do not confuse this booklet with the Cholesterol Depressant Diet Book, published by Wesson as an aid to physicians and* for professional distribution only. *The concept of the Cholesterol Depressant Diet Book stems from Wesson's value in cholesterol depressant diets. Where a vegetable (salad) oil is medically recommended for a cholesterol depressant regimen, poly-unsaturated Wesson is unsurpassed by any readily available brand.*

The Wesson People, Dept. M, 210 Baronne St., New Orleans 12, La.

Please send me my copy of "The Cook Book of Glorious Eating for Weight Watchers", plus two dozen order blanks for distribution to my patients.

_____ M.D.

ADDRESS _____

CITY, ZONE, STATE _____

Poly-unsaturated **Wesson,** *the Pure Vegetable Oil, is Never Hydrogenated*

In Memoriam

Mark Henry Wall M.D.

1898-1961

Mark Henry Wall, M.D. passed away at his home, 105 East First Street, Mesa, Arizona, on January 15, 1961.

Doctor Wall was born in Eau Claire, Wisconsin, March 24, 1898; received his doctor of medicine degree from the University of Minnesota Medical School December 16, 1926; interned at University Hospital; granted Arizona certificate No. 1792 January 5, 1946; first became a member of Maricopa County Medical Society, this Association and AMA in 1946; served in the Army of the United States in 1918.

Doctor Wall was Chief of Staff at St. Joseph's Hospital in Superior, Wisconsin; member of the Masonic Lodge and a Scottish Rite Mason in Eau Claire; member of El Zaribah Shrine of Phoenix and the Mesa Shrine Club; he came to Mesa from Superior, Wisconsin in 1945; was member of the Mesa American Legion; organizer and first president of the Arizona Amateur Athletic Association; charter member of the Sun Angel Foundation; member of the Arizona Country Club; he was president of the Douglas County Medical Society in 1934.

Mark Henry Wall, M.D.

Among Dr. Wall's many friends Dr. Oscar Thoeny has this to say about him. "Mark had ideals and a character to uphold them. At the University of Wisconsin he was already asserting his leadership. As an athlete he was captain of the cross-country team and those teams that he led established a record of competitive excellence that has not been seen since he left. In his fraternity he was the acknowledged statesman and along with his contemporary, Doctor Exley, formed the team named Ma and Pa; they were the two we turned to when we wanted advice and counsel."

Dr. Melvin Kent, a close personal friend and

ofttimes associate through care of patients, describes his Mesa activities. "Dr. Mark Wall began his practice in Mesa in February, 1946. His skill was soon recognized by his fellow practitioners. His kindness, ability, and Christian spirit brought him patients and he soon found himself in the midst of a busy practice.

Mark was a skilled medical man in the true sense of the word, possessing exceptional judgment and ability. Many younger doctors in this area went to him with their problems. He fathered them through their difficulties, giving them sound advice and a helping hand.

His ability had many facets. He was a profound student and read not only the accepted literature in his chosen field, but was widely read in the arts and sciences. Few men in medicine know more about more things than did Mark H. Wall. His curiosity for learning died with him, not before him. His passing will be keenly felt in Southside medicine and surgery. We doubt that any young man in this day of true specialization will be able to successfully encompass such a wide professional area. Indeed, he was one of a dying breed and his passing is a loss to those he served and those who loved him."

Surviving are his wife, Anna S., a professor at Arizona State University; one son, Doctor Mark H., Jr., of Torrance, California; two daughters, Mrs. Katherine Tselentis of Tucson and Mrs. Barbara Friedrich of West Los Angles; three sisters, Mrs. Frances Keough of Wausau, Wisconsin; Mrs. Lillian Crum of Costa Mesa, California; and Miss Marie Wall of Lacy, Washington; three brothers, James J. of Wausau, Wisconsin; the Rev. Gregory Wall of Lacy, Washington, and Doctor Willard Wall of Minot, North Dakota.

FORMER WISCONSIN PHYSICIAN DIES IN ARIZONA

Armond J. Ruppenthal, M.D.

Doctor Armond J. Ruppenthal, 69, passed away January 30, in Phoenix, Arizona where he had lived, and practiced medicine for the past two years. At the time of his death, he maintained an office on East Glendale Avenue, and was on the staff of the John C. Lincoln Hospital.

Born in Cascade, Wisconsin, Dr. Ruppenthal lived as a youth in Brillion. He was educated through his pre-med years at Marquette University, and graduated in 1920 from the University of Illinois College of Medicine. From that time through 1924, Dr. Ruppenthal interned at Milwaukee County Hospital; received his O.B. training at the New York Lying-in hospital; was house physician at St. Johns Hospital in Brooklyn; and he also worked with tuberculous cases at the Sea View Hospital on Staten Island, New York.

In 1925, Dr. Ruppenthal served as physician-in-charge of Sir Wilfred Grenfell's Mission Hospital in Battle Harbor, Labrador.

Dr. Ruppenthal practiced medicine for more than 30 years in Milwaukee where he had an office in the Medical Arts building, 945 N. 12th Street. He also served on the staffs of St. Anthony's and St. Joseph's hospitals in that city.

Among his many affiliations were the Medical Society of Milwaukee County and Maricopa County (Arizona), the Athletic Club of Milwaukee, and the American Legion. His fraternities were Alpha Gamma Phi; Beta Beta Pi; and Tau Nu Epsilon.

Dr. Ruppenthal is survived by his wife, Mara of Phoenix, a brother, Edward Ruppenthal, D.D.S., of Milwaukee, and a host of friends in both cities.

PROJECT HOPE

American medical specialists from all parts of the country have volunteered to serve in Southeast Asia, it was announced by Dr. William B. Walsh, president of Project HOPE.

There is a waiting list of over 200 American medical personnel who have volunteered to serve on board the good ship HOPE, the American hospital ship currently in Surabaya, Indonesia.

in sulfa therapy...

RELEASE YOUR PATIENT FROM Q.I.D. DOSAGE

just one tablet of Midicel provides continuous, effective blood levels for 24 hours

Because many patients need take only 1 tablet daily, therapy with MIDICEL is convenient and economical. It is also advantageous since the possibility of omitted doses is reduced. Rapidly absorbed and slowly excreted, MIDICEL assures dependable bacteriostatic action in urinary tract infections, certain respiratory infections, bacillary dysenteries, as well as surgical and soft-tissue infections caused by sulfonamide-sensitive organisms. And with MIDICEL, there is little likelihood of crystalluria because of its high solubility and low dosage.

MIDICEL (sulfamethoxypyridazine, Parke-Davis), 3-sulfanilamido-6-methoxypyridazine. Tablets of 0.5 Gm.; Suspension, each cc. containing 50 mg. of sulfamethoxypyridazine as the N'-acetyl derivative. *Indications:* Gram-negative and gram-positive infections such as urinary tract, respiratory, and soft-tissue infections and bacillary dysenteries. *Dosage:* Orally once a day until asymptomatic for 48 to 72 hours. Adults:—1 Gm. initially, followed by 0.5 Gm. daily thereafter or 1 Gm. every other day. In severe infections, not to exceed 2 Gm. the first day, then 0.5 to 1.5 Gm. daily according to weight of patient and severity of infection. Children:—30 mg. per Kg. the first day, then 15 mg. per Kg. daily. In severe infections, up to 50 mg. per Kg. initially, then 25 mg. per Kg. daily. Total dose in children, however, should not exceed lower dosage limits for adults. *Precautions:* Continue daily doses higher than 0.5 Gm. no longer than three to five days without checking for blood levels above therapeutic range. Maintain adequate fluid intake during therapy and for 48 to 72 hours afterward. Until further definitive information is available, MIDICEL, in common with all sulfonamides, is contraindicated in the premature and newborn infant. Contraindicated in patients with a history of sulfa sensitivity. MIDICEL is not recommended for meningococcal infections. *Side Effects:* Anorexia and lassitude may occur as may reactions such as drug fever, rash, and headache, all of which are indications for discontinuing the drug. Leukopenia has been reported. Periodic blood counts are advised. Patients with impaired renal function should be followed closely since excessive accumulation may occur. *Available:* Quarter-scored tablets of 0.5 Gm., bottles of 24, 100, and 1,000.

60161

Midicel®

(sulfamethoxypyridazine, Parke-Davis)

and for children...Midicel Acetyl Suspension (N' acetyl sulfamethoxypyridazine, Parke-Davis) • delicious butterscotch flavor • only one dose a day

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

YOUR PROFESSIONAL
GROUP ACCIDENT AND SICKNESS INSURANCE POLICY

Approved and Recommended by Your Insurance Committee and Board of Directors

☆ ☆ ☆

A Program Designed For The Members Of

THE ARIZONA MEDICAL ASSOCIATION, INC.

By The

NATIONAL CASUALTY COMPANY OF DETROIT

☆ ☆ ☆

For Complete Information
CONTACT
CHARLES A. DELEEUW
3424 N. Central Ave. — AMherst 6-2403

PIMA COUNTY REPRESENTATIVE
RONALD DEITRICH
136 North Stone Avenue MAin 3-0583

DORNWAL® HAS BEEN CALLED "THE GENERAL TRANQUILIZER FOR GENERAL PRACTICE."

Suppose the physician visiting this patient finds that he has to be hospitalized. Certainly he wants an alert but not excited fellow who can respond to the history and physical on admission. Depending on the condition, of course, the thing to do is to give the patient one or two tablets of Dornwal before he ever leaves his home.

Dornwal will calm the patient but won't make him drowsy or give him feelings of depersonalization. And what's more, while Dornwal most assuredly tranquilizes, it won't interfere with most other medications that your subsequent examination or laboratory studies may indicate.

Since every man in general practice encounters such situations almost daily, it makes good sense to keep some tablets in one's bag, doesn't it? We will be glad to send you a supply.

Dosage: One or two 200 mg. tablets three times a day. Children, age 6 to 16, one or two 100 mg. tablets two times a day. Administration limited to three months' duration.

Supplied: 200 mg. yellow scored tablets, and 100 mg. pink tablets, each in bottles of 100 and 500.

P.S. For the "Genericist", Dornwal is amphenidone

No absolute contraindications to the use of Dornwal are known. There have been no reports or evidence of habituation, addiction or drug tolerance in animal or clinical studies. Dornwal is relatively free from untoward effects when administered at recommended dosages.

Maltbie Laboratories Division,
Wallace & Tiernan Inc., Belleville 9, N. J.
PDW-12

Maltbie

For the build-up in convalescence

ANNOUNCING

FILMTAB® SURBEX-T™

Therapeutic dosage of B-Complex plus 500 mg. of Vitamin C

Unsurpassed stability. As coatings are applied without water, deterioration due to moisture is virtually eliminated. Stability is enhanced; potency is protected. **Easier, more pleasant to take.** SURBEX-T tablets are up to 30% smaller; have a pleasant taste; and are non-caloric. Vitamin odor and aftertaste are eliminated.

Each Filmtab SURBEX-T represents:

Thiamine Mononitrate (B_1)	15 mg.
Riboflavin (B_2)	10 mg.
Nicotinamide	100 mg.
Pyridoxine Hydrochloride	5 mg.
Cobalamin (Vitamin B_{12})	4 mcg.
Calcium Pantothenate (as calcium pantothenate racemic)	20 mg.
Ascorbic Acid (as sodium ascorbate)	500 mg.
Desiccated Liver, N. F.	75 mg.
Liver Fraction 2, N. F.	75 mg.

Supplied in bottles of 100 and 1000

VITAMINS BY ABBOTT

Filmtab coatings protect this full range of Abbott nutritional supplements:

SUR-BEX® WITH C. Smaller dosages of the essential B-Complex and C. Table bottles of 60. Also in bottles of 100, 500 and 1000.

DAYTEENS™ To help insure optimal nutrition in growing teenagers. Table bottles of 100, bottles of 250, 1000.

Potent maintenance formulas —ideal for those who are "nutritionally run-down"

DAYALETS® Table bottles of 100. Bottles of 50, 250, 1000.

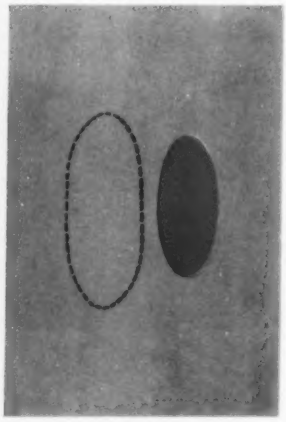
DAYALETS-M® Apothecary bottles of 100 and 250. Also in bottles of 1000.

Therapeutic formulas for more severe deficiencies—illness, infection, etc.

OPTILETS® & OPTILETS-M® Table bottles of 30 and 100. Bottles of 1000.

®FILMTAB—FILM-SEALED TABLETS, ABBOTT.
TM—TRADEMARK
1961, ABBOTT LABORATORIES 103029A

Filmtab® Coating Advantages in a Nuts ıell

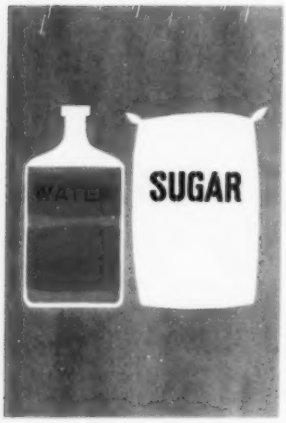


Tablets are easier to swallow, up to 30% smaller.

Vitamin after-taste and odor are eliminated.

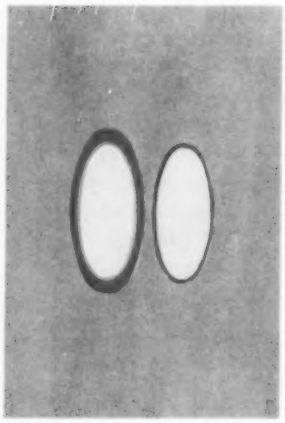
Tablets are pleasant tasting, non-caloric, come in a rainbow of cheerful colors.

Breakage and cracking are less likely. (Sugar coatings are crystalline, and more brittle.)



In contrast with sugar coatings, no water is used in manufacture.

This eliminates the need of protective subseals, and chances of moisture seepage through imperfections.



Absorption is speeded as sugar's bulk and subseals are eliminated.

Vitamins are readily available at proximal receptor sites

NET RESULT: Potency is assured for a longer time. The patient gets what he pays for—and what you prescribe.

FILMTAB—FILM-SEALED TABLETS, ABBOTT ©1961, ABBOTT LABORATORIES 103029 R

Topics of Current Medical Interest

The Physician's Accountant

Gary Wade

To preface my talk, I though you might be interested to hear an accountant distingiush the difference between accounting and bookkeeping. Bookkeeping is the recording of daily business transactions, such as the posting of cash receipts and disbursements to the proper journals and ledgers in the proper manner, in order that you can follow the true financial picture and position of your enterprise.

Accounting is a much broader term. It encompasses all of the aspects of bookkeeping but it more properly analyzes and supervises them. It sets up the system to be used in the bookkeeping process and follows it by means of monthly, quarterly or annual audit. This audit follows step by step the system devised, seeing to it that it is adhered to in all respects.

In former days the accountant, or outside auditor, was often thought of chiefly as a detector of fraud, however, today I believe it can be safely stated that our function is 99 per cent the prevention of fraud and 1 per cent on its detection. It is my belief that you can consider fraud as practically non-existent in your office if you will follow these simple recommendations:

1. A receipt be written for all money received.
2. Receipts be obtained for all petty cash paid out.
3. Petty cash be counted periodically.
4. Deposits be made daily for all money received the previous day.
5. Accountants be allowed to make surprise spot audits.
6. All employees be bonded.
7. Control be maintained on the accounts receivable with a detailed explanation of all accounts charged off.

Presented before the Eighth Annual Scientific Session of the Arizona Chapter, American Academy of General Practice, Oct. 13-15, 1960, Scottsdale, Ariz.
Doctors' Business Bureau, Tucson, Ariz.

I realize that each and every one of you feel that your secretary or bookkeeper is a devoted and faithful person, but you are not being fair to her or to yourself if you do not have proper internal controls which minimize temptation.

With our tax structure as it is today, the doctor's accountant should be no further away than the nearest telephone. I am sure that almost all of you have an accountant who prepares your income tax returns, but for those of you who don't, may I suggest that when you leave this convention you make it a must to inquire around – among your fellow practitioners and friends– and secure the services of the best accountant you can find, to work with you on your tax problems. His service won't cost, it will pay. You, as a general practitioner, would not attempt to do the intricate work of a neurosurgeon, but would refer your patient to one for more specialized medical care. With tax problems becoming more complex every day, for your own personal well being, let a man who is in constant contact with these problems prepare your returns and advise you regarding them.

There are many aspects with which your accountant can help you and should always be consulted. The following are just a few:

1. Partnership Agreements

He should work hand in hand with your attorney to see that your agreement incorporates the ideas that you, as a principal, desire. I have seen too many agreements that do not accomplish the purpose intended, and later on hard feelings and possible dissolution result because of poorly prepared agreements from the accounting standpoint.

2. Insurance

Your accountant should be able to help you with the necessary amount of insurance you should carry as far as your equipment, building, automoblies, liability and even malpractice are

concerned. Without the aid of the accountant, the insurance agent may very possibly under or over insure your basic needs.

3. Purchase of Office Equipment, Automobiles, et cetera

Here again your accountant can advise you regarding your office needs as to what type of office equipment is best suited for your office and the office procedures according to the system that has been devised. No two offices are the same, and many of you might get the idea that because Doctor Smith or Doctor Jones has a certain type of equipment or procedure, and it is working satisfactorily for him, then this is for you. In many cases such a misapprehension can prove very costly and result in many hours of extra work and headaches. As far as automobiles are concerned, your accountant can tell you on very short notice whether you should sell your car and take the capital gain or whether you should trade it in and assume the adjusted basis.

4. Collection Problems

If your accountant works with any number of other doctors, doubtless he can assist you with this very important problem. He can supply a sort of yardstick of figures for comparing your collections with those in similar practice. He can also inform you as to whether your accounts receivable are too great and when and how you could possibly reduce them.

5. Expenses and Their Relation to Income

I am certain that each of you is presently confronted with the problem, or has found at one time or another, that your expenses are too great. If such is presently the case, call in your accountant, let him examine and analyze your situation, and I am sure he will be able to find the main root of your problem. From past experience, it is my observation that the expenses of a well run general practitioner's practice will not exceed 40 per cent, and some will run as low as 30 per cent.

6. Tax Deductions

This probably is one of the most important duties of your accountant today, and this is where he really should excel. What can you deduct, and what can't you deduct? One of our biggest problems is trying to secure from you fellows, proper itemized deductions for entertainment and convention expenses. This is one phase of your return that the Internal Revenue Service is really going over with a fine tooth comb. Entertainment expenses should be clearly documented; in other words you should have dates and names of people entertained, along with cancelled checks or receipts. Also these people named must be ones that you can prove have a direct relationship to the income you earn. If the person is a physician, you must be able to prove that he has, is, or will be referring patients to you. However, one person's name should not appear more than three of four times during the taxable year, or you might find that the revenue agent will classify this as a social obligation and not entertainment. It might also be added, at this point, that entertainment of your partner or partners is not classified as a deductible expense.

An example of retaining entertainment records was brought out in "Medical Economics" sometime ago, which referred to a physician who had misfiled his entertainment records. He claimed a deduction for approximately $750.00, but when the agent requested he produce the written documents, he was unable to do so. In the absence of such evidence, the skeptical agent disallowed the entire deduction and accused the doctor of fraud. This might possibly happen to you if your entertainment expenses are not properly documented by written evidence.

As far as convention expenses are concerned, they follow the same pattern as entertainment expenses. Have your meals charged to your hotel room whenever possible, or charge your meals to one of your credit cards and pay everything by check. Then note on your check stub who you had to dinner, cocktails, or whatever the case may be. If you take your wife, charge off only the portion of the hotel room, meals and transportation that would have been incurred, had you been alone. If you plan a vacation following the convention, you must also be very careful. In most cases they will not allow you to deduct the cost of transportation, but only the hotel room and meals for the length of the convention.

Another factor which might well be brought out at this time is the matter of donations. Let your accountant help and advise you when to give and how to give. For example, he might be able to save you considerable tax dollars by paying off a pledge before the year's end, rather than carrying it on into following taxable years.

He might show you, for example, how a stock purchased at 10, with a present market value of 100, may be deducted as a donation at its present market value without reporting the capital gain of 90. Another thing which is very important with regard to deductions, is to make sure that the charitable institution that you claim, is so recognized by the Internal Revenue Service.

In summation, I would again like to bring out the fact that your accountant should act as a guide or at least be consulted in your financial matters. His guidance will help you run your office more profitably and keep you on a sound basis, as far as your income tax problems are concerned.

I want to thank each one of you for this opportunity to appear here today, and the kindness that you have extended.

U. OF A. — MEDALLIONS OF MERIT

The following doctors in Arizona received special recognition from The University of Arizona during its 75th Anniversary by being awarded Medallions of Merit:

DOCTORS LICENSED IN ARIZONA FOR FORTY YEARS OR MORE

Nicolo V. Alessi, 620 10th St., Douglas, 10-21-19.

Nelson C. Bledsoe, P.O. Box 1990, Tucson, 7-4-04.

Nelson D. Brayton, 32 Keystone Ave., Miami, 7-20-11.

William C. Cain, 642 4th Ave., Yuma, 1-31-19.

Arthur C. Carlson, 341 W. McDowell Rd., Phoenix, 7-16-10.

Meade Clyne, 116 N. Tucson Blvd., Tucson, 7-16-10.

Morris D. Cohen, 1534 E. Speedway, Tucson, 9-7-05.

Cyril M. Cron, 1307-A East Wilson, Glendale, Calif., 10-18-09.

Frederick T. Fahlen, 4750 E. Cholla Lane, Phoenix, 4-30-18.

Harry J. Felch, 703 Professional Bldg., Phoenix, 8-4-16.

Martin G. Fronske, 401 West Aspen, Flagstaff, 4-28-14.

Harry L. Goss, 3043 N. 2nd St., Phoenix, 2-2-20

Edward J. Gotthelf, 4 East Congress St., Tucson, 10-23-15.

Joseph M. Greer, 26 East Coronado Rd., Phoenix, 7-23-14.

Emile C. Houle, 5002 E. Mitchell Dr., Phoenix, 11-8-07.

Hilary D. Ketcherside, 423 Gretna Green Way, Los Angeles, 10-29-19.

Roy R. Knotts, 1340 3rd St., Yuma, 2-8-09.

Robert N. Looney, 134 N. Mt. Vernon, Prescott, -03.

Arthur C. McIntyre, 2617 N. Tangerine Ave., Phoenix, 5-8-15.

James R. Moore, 1602 W. Adams St., Phoenix, 2-2-20.

Earle W. Phillips, 5601 N. Palo Cristi, Phoenix, 11-21-18.

George W. Purcell, Downtown Motel, 383 South Stone, Tucson, 1-20-17.

Harold W. Rice, 110 South Irving, Tucson, 1-18-18.

Van A. Smelker, 310 Valley Bank Bldg., Tucson, 7-20-08.

Lucian M. Tompkins, 201 South Main St., Gilbert, 4-28-19.

Samuel D. Townsend, 309 East Congress, Tucson, 8-1-08.

Otto E. Utzinger, 5610 N. Saguaro Rd., Scottsdale, 10-29-19.

University of Arizona Graduates who have served as President of the Arizona Medical Association

W. R. Manning, 770 N. Country Club, Tucson.

Dermont W. Melick, 1005 Professional Bldg., Phoenix.

Doctors Cited for Special Service

Trevor G. Browne, 315 E. Monte Vista Rd., Phoenix.

W. Paul Holbrook, 4101 East Whittier, Tucson.

A SUMMARY OF PRELIMINARY REPORT AIR POLLUTION SURVEILLANCE STUDY TUCSON, ARIZONA

A short intensive air pollution sampling study made in Tucson, Arizona in January, 1959 indicated that objectionable air pollution can and is coming to Arizona population centers. In order to attempt an evaluation of the problem as well as provide basic data for future studies of a comparative nature, it was decided that a jointly sponsored project be proposed to extend over a 10-month period beginning in September 1959. The United States Public Health Service and the Arizona State Health Department agreed to cooperate by providing technical consultation, equipment and personnel assitsance. The study has been conducted in the Engineering Experiment Station of the University of Arizona.

The period of sampling extended from September, 1959 through June, 1960. All testing apparatus was set up on the University of Arizona

campus. During the study approximately 6,000 samples of air were taken. The resulting data have been carefully analyzed, and the daily and hourly averages are shown on appropriate graphs.

The chief air pollutants are considered to be:

(1) Oxides of sulfur, estimated as SO_2
(2) Oxides of nitrogen, estimated as NO_2
(3) Solids, as dusts, smoke, condensed fumes, etc.
(4) Aldehydes, estimated os formaldehyde
(5) Carbon monoxide
(6) Organic vapors or hydrocarbons

The major source of these pollutants are from fuel oil combustion, coal burning, automobile engines, diesel engines, waste incineration, and evaporation of gasoline, solvents, paint thinners, cleaning compounds, etc. Gasoline engine exhaust is the chief polluting source.

The results of this 10-month study show that the gaseous pollutant levels cannot be considered as high levels of pollution when compared to a city such as Los Angeles, but it should be pointed out that the population of Los Angeles is about 20 times that of Tucson. As for oxidants in the air, concentrations did not reach alarmingly high levels during the period of study, although a few days showed levels that might cause eye irritation. Results of other tests indicate that Tucson is beginning to experience pollution of its atmosphere, that if continued will cause increasing discomfort.

When a city experiences an increase of population comparable to that found in the Tucson area since 1945 (and which is predicted to continue for the foreseeable future) the waste products resulting from the increased activity limited to a relatively restricted area will continue to cause difficulties. To protect the public from the potential hazard to health and to avoid the economic loss that results from an increasing smog problem, it is essential to set up facilities for the investigation of local conditions that may lead to excessive air pollution. Fortunately, financial assistance to enable these studies at the Universtiy of Arizona to be continued for another period has been arranged. Obviously, long-term studies of sources of air pollution and of local meteorlogical conditions are required to determine the methods necessary to assure clean air for the community.

Hugh H. Smith, M.D., M.P.H.

Arthur C. Stevenson, M.D.

Arthur C. Stevenson, M.D., 3722 East Pasadena, was elected to the board of directors of the National Association of Blue Shield Plans, at the District IX meeting in Albuquerque, New Mexico. He is a former president of the Arizona Blue Shield Plan and is the first board member from this state to be so honored nationally by Blue Shield. Dr. Stevenson is a graduate of the Manitoba Medical College and has been active in medical affairs throughout the state. His term of office began in April, at which time the annual Blue Shield conference was held in Chicago, and will serve for a two year period. As a member of the board of directors of Blue Shield nationally, he will have a strong hand in the determination of national policy matters relating to the prepayment organization and a close association with the American Medical Association.

SALICYLATE POISONING: TREATMENT BY CURARIZATION AND CONTROLLED RESPIRATION

In a recent correspondence to the British Medical Journal, Rees, Stead, and Bush(1) directed attention to previous publications concerning the treatment of salicylate poisoning by curarization and controlled ventilation. One of the references

cited(2) discusses a case of salicylate poisoning in Great Britain, the cause and effect of major signs and symptoms, and suggested treatment. A six-year-old boy developed signs of salicylate intoxication following 11 days of sodium salicylate therapy (5 grams/day) for rheumatic fever. The symptoms observed included initial drowsiness, vomiting, and epistaxis; later observations included deep and somewhat rapid breathing (50/minute), coma, profuse sweating, and muscular tetany with spasmodic arching of the back accompanied by stiffness of the limbs. On the day of admission to the hospital the blood salicylate level was 66 mg/100 ml. Although this value fell to 40 mg/100 ml during the second day of hospitalization the patient's condition continued to deteriorate. Some blood chemical determinations were performed, but unfortunately neither serum pH nor carbon dioxide tension was estimated. However, because the patient was tetanic, he was presumed to be alkalotic, and alkalinizing solutions were not used. Therapy at this time consisted of an intravenous infusion of 1/5 normal sodium chloride solution with 5 per cent dextrose and slow gastric milk drip, 1 pint per 24 hours. Calcium gluconate was administered intravenously in an attempt to control the tetany but was ineffective.

By evening, the patient was still comatose, tetanic spasm was almost constant, the temperature had risen to 102° F, and the respiration had become extremely deep and rapid (70 per minute). Attempts were made to conserve and increase his serum carbon dioxide concentration. Rebreathing through a length of corrugated rubber hose produced a slight fall in the respiratory rate and a slight decrease in rigidity of the limbs. Administration of mixtures of carbon dioxide, 5 and 10 per cent, and oxygen decreased the respiratory rate somewhat but increased the force of the expirations; the rigidity and spasms of the limbs were diminished, but these effects were transient and severe tetany recurred. At this time succinylcholine was administered in an effort to reduce the excursion and the violent nature of the respiration. However, because neuromuscular blockade was incomplete trismus persisted and difficulty was encountered in maintaining an airway. Consequently, complete neuromuscular blockade was induced by the intravenous injection of 10 mg of tubocurarine. When the jaw was relaxed, copious mucoid secretion was aspirated from the trachea and bronchi, and controlled intermittent positive-pressure respiration was instituted; the patient was made to breathe oxygen and nitrous oxide, each at the rate of 3 liters per minute.

This treatment resulted in cessation of sweating; the pulse rate decreased from 140 to 100 beats per minute and the temperature fell from 101 to 99.4°F. Additional doses of tubocurarine were injected at intervals as needed to maintain curarization. Approximately 13 hours after initiation of controlled-respiration therapy, intermittent positive-pressure respiration was discontinued and the patient was placed in an oxygen tent. Shortly thereafter, the patient's breathing was normal in rhythm and depth and became stabilized at a rate of 24 per minute; the pulse rate was 110 per minute and the temperature was normal. However, coma persisted and the muscle tone of his limbs was still slightly increased, but there were no further spasms of tetany.

On the third morning the patient's blood salicylate level was 29.5 mg/100 ml. The intravenous 1/5 normal sodium chloride infusion was replaced by a 1/6 molar lactate solution because it was thought that the patient had entered the phase of metabolic acidosis. Furthermore, 2 grams of potassium salt was added to the gastric drip to correct for deficiency of this electrolyte. By the fourth morning the patient regained consciousness, although he was listless and drowsy. At this time his blood salicylate level was less than 5 mg/100 ml. Subsequently, improvement was rapid and eight days following admission he was discharged, completely recovered from the salicylate intoxication.

The rationale of using curarization and positive-pressure respiration in the treatment of salicylate poisoning is based on the concept that the major symptoms of intoxication are secondary to hyperventilation. For example, the elimination of carbon dioxide by hyperventilation rapidly induces respiratory alkalosis; and the state of alkalosis is apparently responsible for the development of tetany. Since tetany in salicylate intoxication is independent of blood calcium levels, it would not be relieved by the administration of calcium salts. Later, probably as the result of renal compensation (excretion of fixed cations), metabolic acidosis supervenes. Some observers have suggested that acidosis is due to

the accumulation of organic acids and it has also been suggested that hyperactivity of the respiratory musculature contributes to acidosis. In the case of children, it has been emphasized that the tremendous muscular exertion in hyperpnea will increase metabolic activity and, consequently, the body temperature. This muscular activity would also produce some degree of ketosis and sweating which, in turn, results in dehydration.

As early as 1945, Rapoport and Guest(3) reported that in dogs and monkeys experimentally poisoned with salicylates, barbiturate has the capacity to suppress hyperventilation and to restore the serum pH and blood carbon dioxide levels to normal. However, central depressants tend to enhance the toxic effects of salicylates on the central nervous system and, therefore, should not be employed in treatment of salicylate poisoning. On the other hand, tubocurarine has no significant central effect and appears to be a desirable alternative. Rees and colleagues (1) indicated that curarization and controlled ventilation will abolish all the major clinical manifestations of salicylate intoxication secondary to hyperpnea and that when the blood salicylate concentration has been reduced to a nontoxic level by the kidneys (10 to 18 hours) the patient will recover uneventfully. They further stated that under supervision of a skilled anesthesiologist this method of treatment seems to offer the great advantage of "counteracting the mechanisms by which life is endangered."

The method employing curarization and controlled respiration appears to be a promising development in the treatment of salicylate intoxication, particularly in severe cases. However, it would seem that additional clinical experience with this technic is needed in order to establish more definitely its value in the treatment of salicylate poisoning.

STATISTICS OF 99 POISONING CASES REPORTED IN ARIZONA DURING DECEMBER, 1960

AGE:

68.1%	involved under 5 year age group	(67)
2.0%	involved 6 to 15 year age group	(2)
16.1%	involved 16 to 30 year age group	(16)
6.0%	involved 31 to 45 year age group	(6)
6.0%	involved over 45 year age group	(6)
2.0%	were not reported	(2)

NATURE OF INCIDENT:

79.2%	accidental	(75)
19.1%	intentional	(19)
2.0%	were not reported	(2)

TIME OF DAY:

24.2%	occurred between 6 a.m. and noon	(24)
31.3%	occurred between noon and 6 p.m.	(31)
18.2%	occurred between 6 p.m. and midnight	(18)
7.0%	occurred between midnight and 6 a.m.	(7)
19.2%	were not reported	(19)

OUTCOME:

100%	recovery	(99)
0.0%	fatal	(0)

CAUSATIVE AGENTS:

Internal Medicines	*Number*	*Percent*
Aspirin	30	30.4
Other Analgesics	2	2.0
Barbiturates	8	8.1
Antihistamines	3	3.0
Laxatives	1	1.0
Cough Medicine	1	1.0
Tranquilizers	6	6.1
Others	12	12.2
Subtotal	63	63.8
External Medicines		
Liniment	0	0.0
Antiseptics	0	0.0
Others	0	0.0
Subtotal	0	0.0
Household Preparations		
Soaps, Detergents, etc.	1	1.0
Disinfectants	0	0.0
Bleach	4	4.0
Lye, corrosives, drain cleaners	4	4.0
Furniture and floor polish	2	2.0
Subtotal	11	11.0
Petroleum Distillates		
Kerosene	3	3.0
Gasoline	1	1.0
Others	5	5.1
Subtotal	9	9.1

Cosmetics	2	2.0
Pesticides		
Insecticides	3	3.0
Rodenticides	0	0.0
Others	0	0.0
Subtotal	3	3.0
Paints, Vernishes, Solvents, etc.	5	5.1
Plants	1	1.0
Miscellaneous	2	2.0
Unspecified	3	3.0
TOTAL	99	100.0

STATISTICS OF 1030 POISONING CASES REPORTED IN ARIZONA FROM JANUARY 1 TO DECEMBER 31, 1960

AGE:

73.4% involved under 5 year age group (756)
3.3% involved 6 to 15 year age group (34)
10.0% involved 16 to 30 year age group (103)
7.5% involved 31 to 45 year age group (77)
4.4% involved over 45 year age group (45)
1.5% were not reported (15)

NATURE OF INCIDENT:

84.5% accidental (871)
14.8% intentional (152)
0.6% were not reported (7)

TIME OF DAY:

33.0% occurred between 6 a.m. & noon (340)
28.6% occurred between noon & 6 p.m. (294)
15.7% occurred between 6 p.m. and midnight (162)
2.6% occurred between midnight and 6 a.m. (27)
20.1% were not reported (207)

OUTCOME:

97.9% recovery (1008)
0.5% fatal (5)
1.6% unknown (17)

CAUSATIVE AGENTS:

Internal Medicines	*Number*	*Percent*
Aspirin	255	24.4
Other Analgesics	32	3.1
Barbiturates	90	8.6
Antihistamines	25	2.4
Laxatives	24	2.3
Cough Medicine	9	0.8
Tranquilizers	37	3.5
Others	142	13.5
Subtotal	614	58.6
External Medicines		
Liniment	6	0.6
Antiseptics	6	0.6
Others	12	1.1
Subtotal	24	2.3
Household Preparations		
Soaps, Detergents, etc.	15	1.4
Disinfectants	14	1.3
Bleach	43	4.1
Lye, corrosives, drain cleaners	27	2.6
Furniture and floor polish	11	1.1
Subtotal	110	10.5
Petroleum Distillates		
Kerosene	28	2.7
Gasoline	14	1.3
Others	31	2.9
Subtotal	73	6.9
Cosmetics	20	1.9
Pesticides		
Insecticides	50	4.8
Rodenticides	4	0.4
Others	8	0.8
Subtotal	62	6.0
Paints, Varnishes, Solvents, etc.	39	3.7
Plants	26	2.5
Miscellaneous	51	4.9
Unspecified	28	2.7
TOTAL	1047*	100.0

*The total number of causative agents exceeds the actual number of poisoning cases since in certain individual poisoning incidents more than one agent was involved.

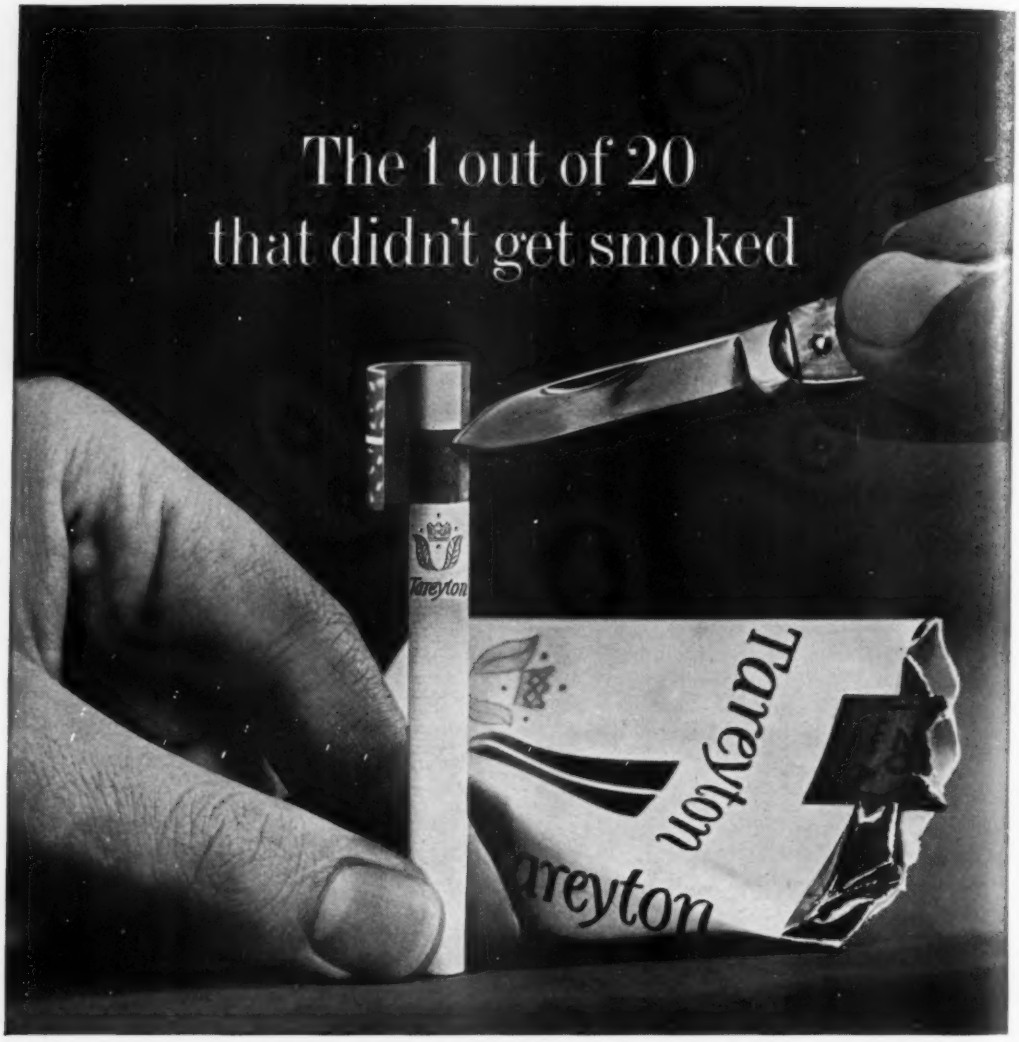
Willis R. Brewer, Ph.D.
Dean, College of Pharmacy
The University of Arizona, Tucson

Albert L. Picchioni, Ph.D.
Pharmacologist and Director
Arizona Poisoning Control Program
The University of Arizona, Tucson

Lincoln Chin, Ph.D.
Pharmacologist
The University of Arizona, Tucson

REFERENCES

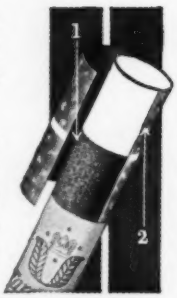
1. Rees, H. J., Stead, A. L., and Bush, G. H., Salicylate Poisoning (Correspondence), British Medical Journal, 2:1454, November 12, 1960.
2. Freier, S., Neal, B. W., Nisbet, H.I.A., Rees, G. J., and Wilson, F., Salicylate Intoxication Treated with Intermitent Positive Pressure Respiration, British Medical Journal, 1:1333, June 8, 1957.
3. Rapoport, S. and Guest, G. M., The Effect of Salicylates on the Electrolyte Structure of the Blood Plasma I. Respiratory Alkalosis in Monkeys and Dogs after Sodium and Methyl Salicylate Poisoning, J. Clin. Investigation, 24:769, 1945.



There's a lot of satisfaction in pointing out something good to a friend. That's why it sometimes happens that one cigarette out of a pack of Dual Filter Tareytons never does get smoked.

People open it to show its remarkable Dual Filter containing Activated Charcoal. They may not know why it works so well, but they do know this: it brings out the *best* taste of the *best* tobaccos. Yes, Tareyton delivers the flavor . . . and the Dual Filter does it!

Try a pack of Dual Filter Tareyton. We believe the extra pleasure they bring will soon have you passing the good word to your friends.



Tareyton delivers the flavor . . .
DUAL FILTER DOES IT!
HERE'S HOW: 1. It combines a unique inner filter of ACTIVATED CHARCOAL . . . definitely proved to make the taste of a cigarette mild and smooth . . .

2. with a pure white outer filter. Together they select and balance the flavor elements in the smoke. Tareyton's **flavor-balance** gives you the best taste of the best tobaccos.

DUAL FILTER Tareyton

Product of The American Tobacco Company — "Tobacco is our middle name" © A. T. Co.

HOBBY HORSE RANCH SCHOOL

A School For Exceptional Children

The Hobby Horse Ranch School is both home and school for a small group of children. It welcomes the child who is mentally retarded and physically handicapped as well as the backward child who suffers no physical handicap.

The Hobby Horse Ranch School is a branch of Fairview School in Fishkill, New York which was established in 1936.

Directors: Blanche C. Lightowler, B.A.
Matthew W. Lightowler

P.O.B. 44, Cortaro, Ariz.

CLASSIFIED

Registered pharmacist, 33 years old, family man with 12 years experience wishes to establish professional pharmacy in medical clinic, or will operate one already established on a permanent basis. Write or phone Art Ellico R. Ph., 209 E. 14th Ave., Sault Ste. Marie, Mich. Melrose 29560. Can furnish unlimited recommendations from physicians.

CLINIC MANAGER

Experienced clinic manager available. For complete brochure write Box CL-9 % Arizona Medicine.

HILLCREST MEDICAL CENTER, INC.

Established 1921

- General Medical
- Orthopedic
- Acute or Chronic
- Post-Operative
- Geriatric
- Convalescent
- Non-Sectarian
- Medical Doctor of your choice

LISTED by American Hospital Association

24 Hr. Professional Nursing — R.N.'s on all shifts.

Phones: MA 4-1562 — MA 3-1391

1501 N. 3rd Ave. Tucson, Arizona

Alberta M. Lovett, President
Charles H. Schmid, Treasurer
Katharine C. Schmid, Director, Admission-Patient Services

BUTLERS REST HOME

- Bed Patients and Chronics
- Television
- 24 Hour Nursing Care
- Excellent Food
- State Licensed

802 N. 7th St. Phoenix, Arizona

Telephone AL 3-2592

DISTRICT NO. 1

ARIZONA STATE NURSES ASS'N.

MRS. MARJORIE E. KASUN, R.N.

Registrar

Nurses' Professional Registry

703 Professional Bldg. — Phoenix — AL 4-4151

DOCTORS' CENTRAL DIRECTORY

Helen M. Barrasso, R.N., Director

For Emergencies or in Absence of Your Doctor

CALL EA 5-1551

At Your Service 24 Hours Daily

3029 E. 2nd St. Tucson, Arizona

"Eastablished 1932"

Put your low-back patient back on the payroll

Soma's prompt relief of pain and stiffness can get your low-back patients back to work in days instead of weeks

Soma is unique because it combines the properties of an effective muscle relaxant and an independent analgesic in *a single drug.* Unlike most other muscle relaxants, which can only relax muscle tension, Soma attacks both phases of the pain-spasm cycle at the same time.

Thus with Soma, you can break up both pain and spasm fast, effectively . . . help give your patient the two things he wants most: relief from pain and rapid return to full activity.

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only with higher dosages. Soma is available in 350 mg. tablets. Usual dosage is 1 tablet q.i.d.

The muscle relaxant with an independent pain-relieving action

SOMA®

(carisoprodol, Wallace)

Wallace Laboratories, Cranbury, New Jersey

How you can help save your patients a month's pay

Kestler reports in J.A.M.A. (April 30, 1960) that conventionally treated low-back syndrome patients required an average of 41 days for full recovery (range: 3 to 90 days). The addition of Soma therapy in this comparative investigation reduced the average to 11.5 days (range: 2 to 21 days). With Soma, patients averaged full recovery 30 days sooner.

Future Medical Meetings

The Arizona Medical Association, Inc.

SEVENTIETH ANNUAL MEETING
SAFARI HOTEI, SCOTTSDALE, ARIZONA
APRIL 26 THROUGH 29, 1961

SCIENTIFIC PROGRAM

THURSDAY, APRIL 27, 1961

7:45 A.M. — Breakfast Panel Discussion "Recent Advances In Steroid Actions and Uses," Harry E. Thompson, M.D., John Mills, M.D., S. Kent Conner, M.D., Robert T. Manning, M.D., John W. Rebuck, M.D., Alfred M. Steinman, M.D.

10:00 A.M. — "Lung Cancer: A Challenge to the Medical Profession," H. Corwin Hinshaw, M.D.

11:15 A.M. — "Physical Diagnosis In Cirrhosis of the Liver," Mahlon Delp, M.D.

11:45 A.M. — "Management of Hepatic Coma," Robert T. Manning, M.D.

12:30 P.M. — "Surgery of the Liver," John J. Mulholland, M.D.

FRIDAY, APRIL 28, 1961

7:45 A.M. — Breakfast Panel Discussion — "Edema and Ascites," Mahlon Delp, M.D., Herbert L. Abrams, M. D., H. Corwin Hinshaw, M.D., Robert T. Manning, M.D., John H. Mulholland, M.D., Alfred M. Steinman, M.D.

9:30 A.M. — "Applications of Thoracic Aortography," Herbert L. Abrams, M.D.

10:00 A.M. — "Current Research in the Connective Tissue Diseases," John Mills, M.D.

10:30 A.M. — "Serum Enzyme: Use and Abuse In Clinical Medicine," Robert T. Manning, M.D.

11:15 A.M. — "A New Qualitative Leukocytic Defect In Ulcerative Colitis," John W. Rebuck, M.D.

11:35 A.M. — "Presentation of Annual Award Paper."

12:15 P.M. — "Mechanism of Action and Use of Aldosterone-Blocking Steroids In Edema," Alfred M. Steinman, M.D.

SATURDAY, APRIL 29, 1961

9:00 A.M. — "Combined Diuretic Therapy With Steroids In Resistant Patients," Alfred M. Steinman, M.D.

9:30 A.M. — "Amyloidosis: A Search For The Answer By Chemical, Pathologic, Immunologic, Clinical And Geographic Means," John Mills, M.D.

10:00 A.M. — "New Ultrastructural Diseases of Platelets as a Common Cause of Abnormal Bleeding," John W. Rebuck, M.D.

10:30 A.M. — "Roentgen Aspects of Pulmonary Hypertension And Increased Pulmonary Flow of Blood," Herbert L. Abrams, M.D.

11:15 A.M. — "Management of the Patient With Emphysema," H. Corwin Hinshaw, M.D.

11:45 A.M. — "Surgery of the Elderly," John H. Mulholland, M.D.

BUSINESS SESSIONS

WEDNESDAY, APRIL 26, 1961

8:00 A.M. – Board of Directors Meeting.

2:00 P.M. – House of Delegates – First Meeting.

4:00 P.M. – Reference Committee Meetings.

THURSDAY, APRIL 27, 1961

10:30 A.M. – Opening Exercises
Presidential Address

2:30 P.M. – Blue Shield Annual Corporation Meeting and Board of Directors Meeting to Follow.

4:00 P.M. – Reference Committees (on call).

FRIDAY, APRIL 28, 1961

3:00 P.M. – House of Delegates – Second Meeting.

• • •

GOLF TOURNAMENT

SATURDAY, APRIL 29, 1961

1:00 P.M. – Annual Handicap Golf Tournament, Indian Bend Country Club (Prizes Awarded Following Play).

ENTERTAINMENT

WEDNESDAY, APRIL 26, 1961

6:30 P.M. – Reception

7:30 P.M. – Chuckwagon Dinner

FRIDAY, APRIL 28, 1961

7:00 P.M. – President's Reception

8:00 P.M. – President's Dinner-Dance

(Note: – Special dispensation for the menu has been granted all Catholics by Bishop Francis J. Green of the Diocese of Tucson.)

SPECIALTY GROUP MEETINGS

(Note: Specialty Group Meetings, Luncheons and Dinner are open to *All* Registrants.)

THURSDAY, APRIL 27, 1961

1:15 P.M. – Luncheons

Arizona Arthritis and Rheumatism Association
"Question And Answer Period On Arthritis in Connective Tissue Diseases," John Mills, M.D.

Arizona Chapter – American College of Chest Physicians
"Bronchoscopy and Bronchography In Diagnosis of Pulmonary Diseases," H. Corwin Hinshaw, M.D.
and –
"Radiologic Aspects of Operable Heart Disease," Herbert L. Abrams, M.D.

Arizona Chapter – American College of Surgeons. "Title To Be Announced," John H. Mulholland, M.D.

5:00 P.M. – Cocktail Hour – Western Reserve University Alumni Association.
Cocktail Hour and Business Meeting only.

7:00 P.M. – Arizona Chapter–American Academy of General Practice.
"A Pistol-Packing Arizona Doctor," Mahlon Delp, M.D.

FRIDAY, APRIL 28, 1961

1:00 P.M. – Luncheons

Arizona Society of Pathologists
"Effects of ACHT and Cortisone in Leukocytic Defenses," John W. Rebuck, M.D.

Arizona Society of Pediatricians
"Inborn Errors of Metabolism," Robert T. Manning, M.D.

Arizona Society of Psychiatrists
"Steroids and Psychoses," a Panel Discussion – Dewitt Englund, M.D., William B. McGrath, M.D., Warren S. Williams, M.D.

Section On Medicine
"Physical Diagnostic Vignettes," Mahlon Delp, M.D.

• • •

WOMEN'S AUXILIARY

The Woman's Auxiliary of the Arizona Medical Association will hold its Annual Meeting in the Safari Hotel concurrently with the Association's Annual Meeting. Registration for the Women's Auxiliary will be in the Hospitality Room.

• • •

TECHNICAL EXHIBITS

Technical Exhibits will be presented in the "Big Top" adjacent to the Scientific Sessions Hall, by the following firms. Your support and visitations are earnestly solicited.

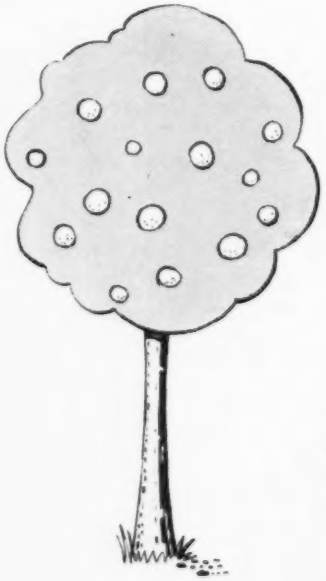
1 The Wm. S. Merrell Co.
2 Abbott Laboratories
3 Standard Surgical Supply
4 Roche Laboratories
5 The S. E. Massengill Co.
6 American Sterilizer
7 American Sterilizer
8 Allied Medical Supply
9 Doho Chemical Corp.
10 Medical Dairy Products
11 Southwestern Surgical Supply
12 Winthrop Laboratories

13 Giegy Pharmaceuticals
14 Milex-Fertilex Co.
15 Great Books of the Western World
16 The Stuart Company
17 A. H. Robins Co., Inc.
18 Maltbie Laboratories
19 Eaton Laboratories
20 Maico-Fogelson Hearing Center
21 The Dietene Company
22 Med-Tronics, Inc.
23 Riker Laboratories
24 E. R. Squibb & Sons
25 Coca-Cola Co.
26 Parke, Davis & Company
27 The Upjohn Company
28 G. D. Searle & Co.
29 Lloyd Brothers, Inc.
30 Person & Covey
31 Rocky Mountain Pharmacal Co.
32 U. S. Vitamin and Pharmaceutical
33 K.B.T. Surgical Supply Co.
34 Schering Corp.
35 Canright Corporation
36 Sanborn Co.
37 Medco Products Co.
38 ARMA Group Insurance Plans
39
40
41 P. B. S. W.
42 Ciba Pharmaceutical Prod., Inc.
43 Mead Johnson
44 Eli Lilly
45 Organon, Inc.
46 Flint, Eaton & Co.
47 Endo Laboratories, Inc.
48 J. B. Roerig & Co.
49 Franks Orthopedic Services
50 Strasenburgh Laboratories
51 Audio Communications, Inc.
52 Loma Linda Food Co.
53 Merck-Sharp & Dohme
54 Ortho Pharmaceutical
55 Sandoz Pharmaceuticals
56 W. B. Saunders Company

Daily Awards For Attendance

Be Sure You Are Eligible to Win "A Pair Of Colts"

Register Daily



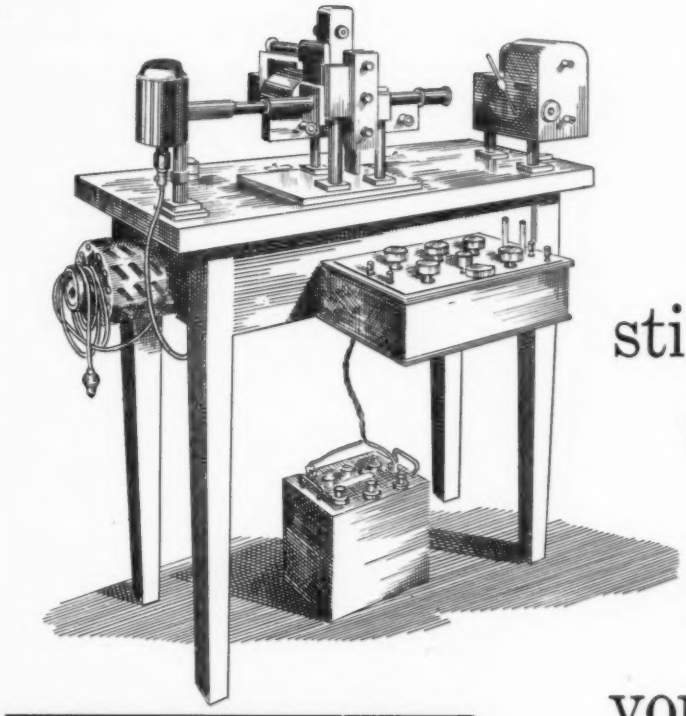
for
M. D.'s
D. D. S.'s
and
O. I. I. P. W. I. T. B.'s*

*Others Interested In Profits With Interesting Tax Benefits.

We don't know a thing about Vitamin C . . . but we do know that Valencia Oranges can help the professional man "get well."

Valencias are the "staple" orange, in constant demand. With thousands of acres of Valencia groves being taken out of production by subdividers, new groves present a remarkable income potential.

Now, a plan created by real estate investment experts enables the professional man to get into Valencia Orange production on a deduct-now-earn-later (about 5 years) basis, with a modest initial outlay. Upon request, full information will be provided by **Arizona-Dynex, Realtors, Mayer-Central Building, Phoenix; AMherst 4-4651.**



do you still need special skills to run your own 'cardiograms?

There *was* a time when you almost did need an electrical engineer's talents to run a clear, clinically accurate 'cardiogram . . . when ECG's were like the one pictured — a Sanborn $1500 "table model" of the mid-1920's. But Sanborn ECG's today use every proven advantage of modern electronic instrument design to give you and your technician equipment which is extremely compact, portable and easy to use — with such conveniences as automatic grounding . . . amplifier stabilization as leads are switched by a single control . . . choice of sensitivities and chart speeds . . . quick, easy paper loading . . . and a *choice of three models* to suit the needs of *your* practice: the 18-pound portable *Visette*, the 2-speed, highly versatile *100 Viso*, and its mobile counterpart, the *100M Mobile Viso*.

Your nearby Sanborn man has shown a growing number of your colleagues how easy it is to use a Sanborn ECG in their offices and on call, and add this valuable diagnostic facility to their practices. He'll be glad to do the same for you. Call him today for full details.

SANBORN COMPANY
MEDICAL DIVISION
175 Wyman St., Waltham 54, Massachusetts

PHOENIX *Resident Representative* 25 E. Osborn Rd., Amherst 5-6328

LABORATORIES

RADIOLOGY

Douglas D. Gain, M.D. — Diplomate American Board of Radiology

John W. Kennedy, M.D. — Diplomate American Board of Radiology

James R. Matheson, M.D. — Diplomate American Board of Radiology

Frank S. Tolone, M.D. — Diplomate American Board of Radiology

ALpine 3-4131

NORTH CENTRAL MEDICAL LABORATORY

2021 North Central Avenue • Phoenix, Arizona

COMPLETE RADIOLOGICAL AND PATHOLOGICAL SERVICES

PATHOLOGY

AL 2-4993

Maurice Rosenthal, M.D. — Diplomate American Board of Pathology

George Scharf, M.D. — Diplomate American Board of Pathology

Seymour B. Silverman, M.D. — Diplomate American Board of Pathology

PHARMACY DIRECTORY

Your Prescription Store

DIERDORF PHARMACY

Phone BR 5-5212

2315 N. 24th St. Phoenix, Arizona

Milburn F. Dierdorf

In Scottsdale call

Lute's Scottsdale Pharmacy

For

PRESCRIPTIONS

WH 5-8420 — WH 5-8429

Next to the 1st National Bank

SRUTWA PHARMACIES, INC.

WH 5-3791

Scottsdale Medical Center

218 E. Stetson Drive

Scottsdale, Arizona

LABORATORIES

THE DIAGNOSTIC LABORATORY

Complete Medical Laboratory Service, X-Ray Diagnosis
Radiation Therapy, Radioactive Isotopes

DEPARTMENT OF PATHOLOGY
MAURICE ROSENTHAL, M.D.
GEORGE SCHARF, M.D.
SEYMOUR B. SILVERMAN, M.D.

DEPARTMENT OF RADIOLOGY
MARCY L. SUSSMAN, M.D.
E. LAWRENCE GANTER, M.D.
W. RANSOM KELLEY, M.D.

Diplomates of the American Boards of PATHOLOGY and RADIOLOGY

1130 E. McDowell Rd. • Phoenix, Arizona

Phone AL 8-1601

Information, Price Lists and Mailing Containers upon request.

Medical Center X-Ray and Clinical Laboratory

1313 North 2nd Street
Phoenix, Arizona
Phone ALpine 8-3484

AND

Professional X-Ray and Clinical Laboratory

510 Professional Bldg.
Phoenix, Arizona
Phone ALpine 3-4105

DIAGNOSTIC X-RAY **X-RAY THERAPY**
RADIUM THERAPY
CLINICAL PATHOLOGY **TISSUE PATHOLOGY**
ELECTROCARDIOGRAPHY **BASAL METABOLISM**

R. Lee Foster, M.D., F.A.C.R., F.A.C.P., Director

Martin L. List, M.D., Radiologist *George A. Gentner, M.D., Radiologist*

Diplomates of American Board of Radiology

Lorel A. Stapley, M.D., Consultant Pathologist

PHYSICIANS' DIRECTORY

ALLERGY

E. A. GATTERDAM, M.D.

American College of Allergists
Academy of Allergy

American College of Chest Physicians

15 E. Monroe St., Professional Building
Office Hours: 11 A.M. to 5 P.M.
Phoenix, Arizona

DANIEL H. GOODMAN, M.D., F.A.C.P.

Diplomate American Board of Internal Medicine
American College of Allergists
American Academy of Allergy

31 W. Camelback Road CR 7-3337
Phoenix, Arizona

HOWARD M. PURCELL, JR., M.D.

American Board of Pediatrics
American Academy of Pediatrics
American College of Allergists
ALLERGY OF CHILDREN

322 W. McDowell Rd. PHOENIX, ARIZONA

DERMATOLOGY

GEORGE K. ROGERS, M.D.

DERMATOLOGY

Diplomate of American Board of
Dermatology and Syphilology

Phone ALpine 3-5264
105 W. McDowell Road Phoenix, Arizona

WILLIAM SNYDER, M.D.

Diplomate of the American Board of Dermatology

Diseases of the Skin

Skin Cancer — Cutaneous Allergy

2021 N. Central Ave. — ALpine 3-8383
PHOENIX, ARIZONA

GYNECOLOGY & ENDOCRINOLOGY

JOSEPH B. RADDIN, M.D.

Practice limited to

MEDICAL GYNECOLOGY & ENDOCRINOLOGY

706 Professional Building
15. E. Monroe — Phoenix, Arizona
Phone ALpine 2-3577

MALIGNANT DISEASE

JAMES M. OVENS, M.D.
F.A.C.S .F.I.C.S.

Diplomate American Board of Surgery

Cancer and Tumor Surgery

X-ray and Radium Therapy

608 Professional Bldg. Phone ALpine 8-8074

Phoenix, Arizona

A. L. LINDBERG, M.D.

JOHN W. VOSSKUHLER, M.D.

Neoplastic Diseases
Tucson Tumor Clinic

721 N. 4th Ave., Tucson, Arizona
Phone MAin 3-2531

ORTHOPEDIC SURGERY

THE ORTHOPEDIC CLINIC
ORTHOPEDIC SURGERY

W. A. Bishop, Jr., M.D. — Alvin L. Swenson, M.D.
Ray Fife, M.D. — Sidney L. Stovall, M.D.
T. H. Taber, Jr., M.D.

Fellows of the American College of Surgeons
Diplomates of the American Board of Orthopedic Surgery

2620 N. 3rd St. — Phoenix, Arizona — CR 7-6211

PHYSICIANS' DIRECTORY

Plastic and Reconstructive Surgery

CLARE W. JOHNSON, M.D., F.A.C.S., F.I.C.S

Diplomate of the
American Board of Plastic Surgery

Park Central North — 461 W. Catalina Dr.
Phone CR 4-5713 — Phoenix, Arizona

PROCTOLOGY

WALLACE M. MEYER, M.D.
PROCTOLOGY
Park Central Medical Bldg.
Phone CR 4-5632
550 W. Thomas Road — 216 Patio B
Phoenix, Arizona

JAMES T. JENKINS, M.D.
Fellow American Proctologic Society
Fellow American College of Surgeons
Fellow International College of Surgeons
Practice Limited to Diseases of the Anus, Rectum and Colon
2021 N. Central Ave.
Phoenix, Arizona — Phone AL 2-2822

PSYCHIATRY

CARL BREITNER, M.D.
Psychiatry
AL 2-9108
1515 N. 9th St. Phoenix, Arizona

LEO RUBINOW, M.D.
PSYCHIATRY
AM 6-0630
224 E. Thomas Rd. Phoenix, Arizona

SPEECH PATHOLOGY

ROBERT N. PLUMMER, Ph.D.
SPEECH PATHOLOGIST
Advanced Member
American Speech and Hearing Association
Diagnoses Speech and Swallowing Therapy
240 W. Osborn Rd. Phone AM 5-0071
Phoenix, Arizona

RADIOLOGY

R. LEE FOSTER, M.D., F.A.C.R., F.A.C.P.
MARTIN L. LIST, M.D., GEORGE A. GENTNER, M.D.
Diplomates of American Board of Radiology
Diagnostic Roentgenology, X-Ray and Radium Therapy
510 Professional Bldg. 1313 N. Second St.
Phone ALpine 3-4105 Phone ALpine 8-3484
Phoenix, Arizona

MARCY L. SUSSMAN, M.D., F.A.C.R.
Diplomate of American Board of Radiology
E. LAWRENCE GANTER, M.D.
Diplomate of American Board of Radiology
DIAGNOSTIC RADIOLOGY
THERAPEUTIC RADIOLOGY
RADIOISOTOPES
1130 E. McDowell Rr.
Telephone ALpine 8-1601 Phoenix, Arizona

SURGERY

DELBERT L. SECRIST, M.D., F.A.C.S.
123 South Stone Avenue
Tucson, Arizona
Office Phone MA 2-3371 Home Phone EA 5-9433

DONALD A. POLSON, MD., M. Sc.
GENERAL SURGERY
Certified by the American Board of Surgery
550 W. Thomas Road
Phone CRestwood 4-2081
Phoenix, Arizona

INDEX TO ADVERTISERS

Abbott Laboratories 65A, 66A
American Tobacco Co. 74A
Ames Inc. .....Inside Back Cover
Arizona-Dynex 80A

Breon, George A. & Co. 7A
Bristol Laboratories 19A, 20A, 21A, 22A
Burroughs-Wellcome Co., Inc. 57A
Butlers Rest Home 75A

Camelback Hospital 40A
Camelback Professional Building 32A
Case, G. M., Laboratories, Inc. 48A
Classified Advertising 75A

Doctors Directory 75A

Emko Company 46A, 47A

Franklin Hospital 2A

H.B.A. Life Insurance Company 31A
Hillcrest Medical Center 75A
Hobby Horse Ranch School 75A

Las Encinas Sanitarium 32A
Lederle Laboratories 2A, 28A, 56A, 112, 113
Lilly, Eli & Co. .....Front Cover, 30A
Loftins Business Forms 56A
Lorillard Company 6A

Maltbie Laboratories 8A, 64A
Mead Johnson & Company .....Back Cover

National Casualty Co. 64A
Nurses Directory 75A

Parke-Davis & Co. .....Inside Front Cover, 1A, 62A, 63A
PBSW Office Equipment Center 122
Pharmacy Directory 82A
Physicians Casualty Association 8A
Professional Hearing Aid Clinic 48A

Robins, A. H. & Co. 9A, 10A, 11A, 18A
Roerig, J. B. & Co. 15A
Ryan Evans Drugs 56A

Sanborn Co. 81A
Saunders, W. B. Co. 3A
Schering Corporation 29A
Schieffelin & Co. 2A
Searle, G. D. & Co. 23A
Squibb, E. R. & Sons Co. 26A, 27A, 39A

Upjohn Co. 24A, 25A

Wallace Laboratories 13A, 41A, 76A, 77A
Wayland Drugs 8A
Wesson Oil & Snowdrift Sales Co. 58A, 59A
Wine Advisory Board 17A
Winthrop Laboratories 5A

ARIZONA PODIATRY ASSOCIATION

PHOENIX

Julius Citron, D.S.C., A.C.F.S.
40 E. Thomas Rd. — CR 9-4161

Daniel R. Nenad, D.S.C.
205 E. Camelback Road. — AM 5-7510

Samuel Mason, Pod. D.
461 W. Catalina Dr. — AM 6-1009

Howard B. Seyfert, Jr., D.S.C.
753 E. McDowell Rd. — AL 4-4414

Irwin D. Shapiro, Pod.D.
40 E. Thomas Rd. — CR 9-4161

A. Stern, D.S.C.
17 S. 1st St. — AL 3-2231

Paul L. Fabricant, D.S.C.
1313 N. 2nd St. — AL 3-7336

Eugene R. Strong, D.S.C.
122 E. Main — WO 9-0851

TUCSON

Felton O. Gamble, D.S.C.
1888 N. Country Club Rd. — EA 6-3212

Harold E. Mitton, D.S.C.
318 E. Congress St. — MA 3-9151

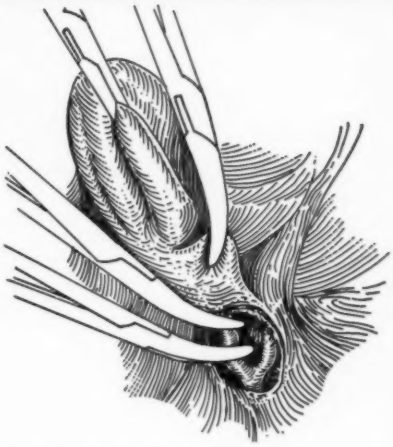
Martin Snyder, D.S.C.
2629 E. Broadway — EA 5-6333

E. Gene Shank, D.S.C.
2004 N. Campbell — EA 6-6077

Ernest C. Badger, D.S.C.
Lowell, Arizona — HE 2-3361

AN AMES CLINIQUICK®

CLINICAL BRIEFS FOR MODERN PRACTICE



HOW MAY A PATIENT BE REASSURED THAT REMOVAL OF HIS GALLBLADDER WILL NOT SERIOUSLY IMPAIR HIS DIGESTIVE ABILITY?

He may be told that, among animals of similar dietary habits and digestive processes, some have a gallbladder and some do not. Among the herbivores, the cow and sheep have one, the deer and horse do not; among the omnivores, the mouse has one but the rat does not.

Source: Farris, J. M., and Smith, G. K.: M. Clin. North America *43*:1133 (July) 1959.

when the patient needs increased bile flow...

DECHOLIN®

(dehydrocholic acid, AMES)

"Constant loss of bile [from relaxation of sphincter of Oddi following cholecystectomy] reduces the amounts available for lipid absorption after meals, with resulting clinical symptoms apparently relieved by bile acid administration." *Source:* Popper, H., and Schaffner, F.: Liver; Structure and Function, New York, McGraw-Hill 1957, p. 309.

Available: DECHOLIN Tablets: (dehydrocholic acid, AMES) 3¾ gr. (250 mg.). Bottles of 100, 500, and 1,000.

and for hydrocholeresis plus *spasmolysis...*

DECHOLIN® WITH BELLADONNA

(dehydrocholic acid with belladonna, AMES)

Available: DECHOLIN Belladonna Tablets: DECHOLIN (dehydrocholic acid, AMES) 3¾ gr. (250 mg.) and extract of belladonna 1/6 gr. (10 mg.). Bottles of 100 and 500.

AMES COMPANY, INC
Elkhart • Indiana
Toronto • Canada

taste-tested by experts

VI-SOL®
Chewable Vitamins

TRI-VI-SOL® · POLY-VI-SOL® · DECA-VI-SOL®

In recent taste tests by over 800 children, the flavor of Vi-Sol chewable vitamins was preferred conclusively over other chewable vitamin tablets...as much as 2 to 1 in some cases.

Vi-Sol chewable vitamins now have new, improved formulations...authoritatively based* but modified to fulfill the practical needs of today's children. With these revisions, Vi-Sol chewable vitamins provide safe, rational, practical levels of C, D and A for the growing child—preschool to adolescent.

*Recommended Daily Dietary Allowances established by the National Research Council, and endorsed by the Council on Foods and Nutrition of the American Medical Association, "Vitamin Preparations As Dietary Supplements and As Therapeutic Agents," J.A.M.A. *169*:41-45 (Jan. 3) 1959.

Mead Johnson Laboratories

Symbol of service in medicine

1401

flavor
l con-
s...as

roved
dified
With
ovide
or the

nal Re-
tion of
ry Sup-
) 1959.

1401